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ABSTRACT

The proceedings of a 1983 symposium on early education and the exceptional child features 18 presentations of overall issues, cost effectiveness, special projects, social interaction, and curriculum and instructional issues. Works with the following titles and authors are included: "Education: A Look to the Future" (J. Tawney); "Movement from Program to Program at an Early Age: The Early Childhood Transition Process" (E. Edgar et al.); "Peer Support as a Mediator in Stress Reduction for Parents of Children with Disabilities" (E. Edgar); "Early Intervention Today: A Program Example" (M. Hanson); "A Model for Early Intervention with Culturally Diverse Single and Multiparent Families" (M. Hanson); "A Critical Survey of Cost-Effectiveness Analysis in Human Service Research" (J. Pezzino); "Cost-Effectiveness in Social Program Evaluation" (C. Taylor and K. Walker); "Preschool Transition Model" (V. McNay); "Early Intervention Research Institute" (C. Taylor and K. Walker); "Project Upstart Model Demonstration Continuation Project" (D. Walshe); "Project Upstart Outreach Services" (D. Walshe); "The Macomb 0-3 Project: Providing Services to Handicapped Infants and Their Families in Rural Areas" (S. Marshall); "Prompting and Praising Social Interactions (Adapted from Social Integration Project Basic Skills Manual, "Teaching Basic Skills to Handicapped Preschoolers in Integrated Settings)"; "Success in Education: The Assimilation of the Cognitive and the Affective" (M. McCulloch); "A Generic Approach to Direct Instruction" (J. Jacobs and K. Welch); "Assessing the Representational Behaviors of Play, Language and Drawing in Normal and Language-Delayed Children" (N. Owings and S. Workman); "Approaches for Dealing with the Anorexic Infant and Toddler" (A. Hilton); and "Instructional Intervention That Works: Case Study Research" (B. Walker et al.). (CL)

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PROCEEDINGS DOCUMENT

THE FOURTH ANNUAL MONTANA SYMPOSIUM

on

EARLY EDUCATION AND THE EXCEPTIONAL CHILD

EDITOR: Christine Y. Mason

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Institute for Habilitative Services, Eastern Montana College
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TABLE OF CONTENTS

Page

Preface iii

KEYNOTE ADDRESSES 1

Education: A Look to the Future. J. Tawney. 2

Movement from Program to Program at an Early Age: The Early Childhood Transition Process. E. Edgar, J. Gallaher, M. Maddox. 25

Peer Support as a Mediator in Stress Reduction for Parents of Children with Disabilities. E. Edgar. 32

Early Intevention Today: A Program Example. M. Hanson. . . . 44

A Model for Early Intervention with Culturally Diverse Single and Multiparent Families. M. Hanson. 51

COST EFFECTIVENESS. 68

A Critical Survey of Cost-Effectiveness Analysis in Human Service Research. J. Pezzino. 69

Cost-Effectiveness in Social Program Evaluation. C. Taylor, K. Walker. 88

Preschool Transition Model. V. McNay. 92

SPECIAL PROJECTS. 103

Early Intervention Research Institute. C. Taylor, K. Walker 104

Project Upstart Model Demonstration Continuation Project. D. Walshe. 110

Project Upstart Outreach Services. D. Walshe. 116

The Macomb 0-3 Project: Providing Services to Handicapped Infants and Their Families in Rural Areas. S. Marshall. . . 121

SOCIAL INTERACTION. 144

Prompting and Praising Social Interactions (Adapted from Social Integration Project Basic Skills Manual; Teaching Basic Skills to Handicapped Preschoolers in Integrated Settings). 145

Success in Education: The Assimilation of the Cognitive and the Affective. M. McCulloch. 150

CURRICULUM AND INSTRUCTIONAL ISSUES. 154

A Generic Approach to Direct Instruction. J. Jacobs, K. Welch. 155

Assessing the Representational Behaviors of Play, Language and Drawing in Normal and Language-Delayed Children. N. Owings, S. Workman. 174

Approaches for Dealing With the Anorexic Infant and Toddler. A. Hilton. 183

Instructional Intervention That Works: Case Study Research B. Walker , L. Salvesen, K. French. 192

NEXT YEAR'S CONFERENCE. 201

PREFACE

COMMENTS FROM THE CONFERENCE COORDINATOR

THE FOURTH ANNUAL MONTANA SYMPOSIUM ON EARLY EDUCATION AND THE EXCEPTIONAL CHILD was held on April 27-29, 1983 in Billings, Montana Approximately 225 persons attended the three day conference hosted by Eastern Montana College, the Office of Public Instruction and Montana Affiliated Programs. The theme of this year's conference was "Early Impact and Long Term Gains". Dr. Marci Hanson from the San Francisco Infant Program, Dr. James Tawney from Pennsylvania State University and Dr. Eugene Edgar from the University of Washington gave keynote addresses. Dr. Tawney opened the conference Wednesday night with an address which focused upon his predictions for economic and societal conditions by the year 2100. Dr. Tawney predicted that education as we know it today will no longer exist and that microcomputers and home instruction will replace classrooms. Dr. Tawney based his predictions on a recent report by a commission on education which pointed out the failures of public school education, the number of students now placed in private schools, and the predictions of Alvin Toffler in his book, THE THIRD WAVE. Dr. Tawney brought up the issues of cost efficiency of public education, the dissatisfaction of parents, and the failure of the public to support reasonable teacher's salaries. Dr. Tawney, a full professor at Pennsylvania State University, taught previously and conducted research grants at the University of Kentucky. He has written articles on computer technologies and the future of education and recently was invited to write a chapter for a test on his predictions for education in the future. Monitoring IEP goals and objectives was the subject of a mini-session. Dr. Tawney has been heavily involved this past year in training parent teams to evaluate and monitor implementation of P.L. 94-142.

The second day of the conference began with a welcome by Dr. Benedict J. Surwill, Dean, School of Education, and a general address by Dr. Marci Hanson. Dr. Hanson presented a slide show and described the San Francisco's Infant Program, a program which involves parents and infants from a wide variety of cultural backgrounds. The program currently serves twenty youngsters and their families. Previously funded as a special project, the San Francisco Infant Program is one of many programs throughout the country which is hoping to survive recent cutbacks in funding of early childhood education. Dr. Hanson stressed the absolute need to work diligently to create positive interactions between parents and their young children. The San Francisco Infant Program involves parents through parent support group meetings, weekly home visits, and parent instruction in the classroom. Dr. Hanson also presented a mini-session on adaptive devices and contingent feedback.

On Thursday evening three keynote speakers, Dr. Dale Gentry from the University of Idaho, Dr. Ron Sexton and Dr. Chris Mason from Eastern Montana College presented a crackerbarrel discussion on "Research, 0-3, and Mandated Programs". The discussants addressed questions presented by the audience related to the topics: Microcomputer use with 0-3 aged populations, the pros and cons of direct instruction with infants, and appropriate assessment devices for handicapped preschoolers. Dr. Hanson suggested that, at the present time, most school districts would be better off spending what little money they have on personnel and equipment other than computers. She stressed that facilitating positive parent-child interactions and teaching many of the necessary skills to preschoolers can now be accomplished much more cost efficiently

than by using computers. Dr. Mason addressed some of the problems with direct instruction and highly structured instruction with preschoolers with short attention spans. Dr. Mason suggested that creation of artificial teaching situations may not be the most effective means of instruction and may, in fact, be counterproductive to the intent of "normalization". Dr. Mason further suggested that educators carefully observe children to see if skills being taught are generalizing to every day situations. Problems with the use of tests based upon normal developmental models were stressed by both Dr. Mason and Dr. Gentry. With handicapped individuals, development often proceeds differently than through the normal developmental sequence, tests which assess functional, needed skills and tests which are criterion referenced are most appropriate for handicapped youngsters. Dr. Gentry mentioned that the U-PASS, a test developed at the University of Washington, is an example of a device which is appropriate for many handicapped preschoolers. A cocktail hour following the crackerbarrel allowed conference participants to meet and interact with many of this years' presenters.

The final day of the conference started with a welcome by Dr. Bruce Carpenter, President of Eastern Montana College. Dr. Eugene Edgar then addressed the problems of "EARLY CHILDHOOD TRANSITIONS." Dr. Edgar stressed that many problems arise out of lack of communications between the "senders of and the receivers of children", that schools which send children on to new environments are often frustrated by the lack of standards, appropriate assessment, communication with parents and programming at the new sites. Similarly, the receivers of children, the children's next educational environments, often express concern over

the quality of programs, assessment etc., at the preschool sites. Dr. Edgar mentioned possible solutions to these dilemmas. These suggestions, based upon research being conducted at the University of Washington, include using the same assessment devices at both sites, standardizing the format for educational reports, and reciprocal visits by staff to each site so that the preschool agencies and public school personnel have more first hand knowledge of each site.

Dr. Edgar stated that to achieve some of these goals it is often easiest for the preschool site to use the same instruments and formats for reports that are used in the public school setting. Dr. Edgar has also worked with a system whereby parents expecting a transition for their children are matched with a parent who has undergone the transition. The experienced parent then serves as a guide, assisting the other parent through the experience.

Dr. Edgar stressed that transition times are often difficult times for the adults involved in the transition process, that parents and preschool teachers often face separation anxiety and that parents need support through this difficult time. Dr. Edgar further addressed suggestions for providing this support in a mini-session he presented entitled "Parent Involvement: Stress and Peer Support".

In addition to the keynote presentations, approximately 40 of the presenters from various parts of the United States addressed such topics as "environmental control of behavior", "infant stimulation", Piagetian based intervention models, social play, direct instruction, and early educational research. Participants also had many opportunities for hands-on experiences with microcomputers. Special projects such as the

Early Intervention Research Institute from Logan, Utah; the Macomb 0-3 Outreach Project from Macomb, Illinois; INREAL/OUTREACH from the University of Colorado; the Portage Project from Portage, Wisconsin; Teaching Research from Monmouth, Oregon; and Project Upstart from Washington, D.C. were represented at the symposium.

Next year's conference will be held on April 11-13, 1984. Preliminary work has already begun and we are looking forward to another excellent conference.

Christine Mason
Conference Coordinator

Elena Korsmoe
Assistant Coordinator

KEYNOTE ADDRESSES

Education: A Look to the Future

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Note: Portions of this presentation are drawn from Tawney, J.W. The future. In P. Cegelka and H. Prehm (Eds.), Mental retardation: From categories to people. Columbus, OH: Charles E. Merrill, 1982. Also, Chapter 20, Futurism. In J.W. Tawney (Ed.), Public education for the severely developmentally retarded: A contemporary history (in preparation).

It's always a pleasure to talk about the future, computers and the education of handicapped students. I look forward to such opportunities with a degree of enthusiasm that is tempered only by the reality that future events will probably discredit much of what I have to say. Nevertheless, since accountability comes very far down the road--particularly if one's projections are cast into the 21st century--my enthusiasm is not unduly diminished.

Today, I will address three topics:

(a) the status of public education in contemporary society;

(b) the status of microcomputer uses in special education; and

(c) potential uses of technology in a future society.

You may not like some of what I have to say. In fact, you may take great exception to the assumptions I've made, and thus to some of my projections. So, before I address the first of the topics, let me explain briefly how those were developed.

First, I have been confronting the topics since 1980, when Pat Cegelka and Herb Prehm asked me to write a chapter on futurism for their new text on Mental Retardation (Cegelka and Prehm, 1982). At the same time, I was developing a similar manuscript for a text in severe mental retardation. Both were based on work which had recently been completed at the University of Kentucky--developing a prototype telecommunication system to control learning devices (teaching machines) placed in the homes of handicapped children but controlled from a microcomputer in a central location--our Programmed Environments preschool. That system was described earlier (Tawney, 1977), in an attempt to show how education, health, and social service delivery

could be improved through new models designed around telecommunications technology. Thus, it appeared that I had a good start on the writing tasks at hand. However, about this time Alvin Toffler's book The Third Wave was published. I attained a copy, and read it quickly, from cover to cover. That experience was both a blessing and a curse. On one hand, it was highly reinforcing to read about an "electronic cottage" after our experience with home-placed teaching machines. On the other, when talking about prosumerism, Toffler made the point clearly that the technology revolution would have major impact on the world economy--a factor I had ignored in my telecommunications based novel.

Reading The Third Wave actually forced my attention to two problems: our troublesome economy and, given what the future may hold for us, the place that the mentally retarded have in a radically changed society. My task became, then, to create my own scenario, or view, of the future, and then to explore ways the retarded may become functional contributing members in that future culture. I should tell you, up front, that the professional "literature" in special education has played no part at all in the design of a future culture. Instead, I have looked elsewhere. I looked to the new releases in our local bookstore--to see what economists were writing for the general public. I have carefully observed my middle class, middle income friends and colleagues trying to deal with inflation and then deep recession. During this time I've criss-crossed the country by car, from Pennsylvania to California by the southern route, then back home across Interstate 80; then from Pennsylvania to Michigan to Nebraska, and

through the grain belt--all the while asking myself "Will advanced technology really transform this culture or that geographical region?" I've read or reread other's visions of Utopia. In Arizona, I've stopped to visit Arcosanti, Paulo Soleri's vision of a city of the future. It is, as some of you may know, a rather humble beginning, a small enclave located on the edge of a mesa.

It is clear to me now, that we are experiencing the transformation to a high technology society--as Alvin Toffler proposes. It is less clear that this technology explosion will impact on a high percent of the population of the United States. For, while technology development proceeds at a rapid pace on the East and West coasts, and thus creates a demand for even more technology development, life proceeds differently in other parts of the country, and in other economies. It is clear to me at least that technology will have major impact on the lives of handicapped persons, but, in order to see that potential, it is necessary to look beyond the trivial uses that "are" the technology of today. After all, the world may be ready for a new car that tells you "all monitored systems are operational" but do we really need one? And, does anyone but Pacman really need Ms. Pacman, the newest video game?

I believe that our society is undergoing major transformation, that this transformation will radically alter public education, and that this revolution will have positive and negative effects on the handicapped. The task that confronts educators and social planners is to insure that the balance is tipped in a positive direction.

PUBLIC EDUCATION IN CONTEMPORARY SOCIETY

I believe we are witnessing the beginning of the end of public education. Those of you who are undergraduates are probably not the last generation to be trained, but you may be the next-to-last generation. Those of you who are mid-career may look forward to continued employment until retirement. But, by the year 2100, public education as we know it now may have disappeared--except for services to children who are difficult to teach or difficult to manage.

If there is no system of public education, what will take its place? How will children be educated? Briefly, for now, children will be educated at home, by their parents. Computers and telecommunications systems will play a large part in the educational process.

Now, you may be asking, "Do I really believe this will occur, or am I just trying to get your attention?" I am quite serious. As I observe the world around me, this seems to be a very real possibility.

But why? What could possibly destroy a major social institution? There are perhaps many reasons; I will briefly list a few. First, there is already a trend from public to private education, in urban areas where the issues of race, or great differences in economic status trigger such movement. Enrollments in prep schools are on the upswing. Those who value education, and who can afford it, are abandoning the public education system in increasing numbers.

The major reason, as I see it, is that our culture can no longer afford a public education system. If nothing else, we are a society that expects something for nothing. I point to the size of our growing

federal deficits to document that assumption. During our last presidential election the message from the voters was clear "We can't afford to pay any more taxes." As we watch the current budget fights, we will see if that message has been forgotten.

My objective here is not to shift into a discussion of economic policy, but to focus on the realities of our economic crises. To do that, and still be brief, let me tell you about a little game we play in one of my courses. It's called "What ever happened to the Great American Dream?" Generally, the "Dream" is defined as owning a modest though comfortable home and two cars; having money for leisure time activities, and enough put by for a college education for the two children in the "average" family. Once we define it, then we guess at the annual income needed to sustain the dream. We get some good guesses--first in the $20,000-30,000 a year range--but my best guess, in 1983, is that it requires about $65,000 a year, for an average family in an urban area. Now, that may seem high to you, if you've had a home for 10 years or so and think you will reasonably be able to send your two children to college. But, think of the cost to a young couple, attempting to buy a house in today's market. Then, realize that at current interest rates, only 1 out of 10 people can afford a home. Then, compare that annual income to the percent of people in the country who actually earn that amount of money. Then, compare the $65,000 to the salary for a beginning teacher. Now, as a society, we can't afford to pay more, but that teacher can't afford to live on less--achieve some semblance of the dream. That's the Catch-22. Earlier this year, when we talk of a trillion dollar deficit,

and a massive defense budget, it was clear we had not come to terms with economic reality or social priorities. For the moment, we can only wait and see.

Next, public education suffers from an image problem. No matter how proud a local community may be of its schools, on a national level, there is a general attitude that public education is an ineffective institution. Those of us in special education who work in colleges and universities are experiencing a reordering of federal priorities, to define, then increase the quality of our training programs. At the state level, one can look around the country and point to the competency testing movement as a reaction to the belief that our high school graduates lack basic skills. The "back to basics" movement, too, is an effort to define and then teach something concrete. Can public education solve its image problem? Possibly, but I doubt that it will. Perhaps we can look to the auto industry for some directions. Let me explain. Recently, a colleague and I were discussing Chrysler Corporation's turnaround, after the announcement of its first recent profitable quarter. My colleague made two comments "I never thought they'd make it. I wonder how they did." My response to his second statement went something like this. "There are two reasons; contrast the message implied in their five year, 50,000 mile warranty to the number of recalls that Ford and GM have experienced." Interestingly, last Monday's Washington Post (April 18, 1983, Washington Business section) had an article on that very topic. Did you know the reason why you don't see many of the new Mustang convertibles in that they're being recalled almost as fast as they're being made. The top rips when

you put it down. Did you know that federal agencies have issued 2,395,000 recall notices so far this year? Or that one of the two major companies has issued as many as 5,000,000 recall notices because the rear axle may fall off of one of its models. Or, that nearly a half million Chevettes and similar series cars have been recalled because of a fule line problem that causes engine fires. Or that there aren't enough of the parts (which cost a dollar) to fix the problem. It seems that the automobile industry has not yet come to grips with a strategy to counter foreign competition. Will Ford and GM look to Chrysler as a model for success? Will our national automobile industry survive/ Will public education survive? We don't face foreign competition. But, perhaps, we face a new attitude from parents--"If I can't afford it, I'll do it myself." That's what Alvin Toffler means when he talks about prosumerism. In the face of economic adversity, we can survive by producing and consuming our own products, or by doing for ourselves those things we once paid others to do.

To summarize this analysis of the status of contemporary public education:

(1) the profession faces some difficult problems;

(2) public education, as we know it, may not survive;

(3) the alternative form of education which may emerge will be centered in the home; microcomputers and telecommunication systems may play a major role in this new form of education;

(4) there are powerful factors working toward a transformation of public education; transformation to a high technology society; world-wide, as well as national economic crisis;

inability, as a society, to come to grips with economic realities and social priorities.

Before I go on, let me share some observations--in the form of answers to questions you may have. First, do I think this should happen? My answer, from the perspective of an observer of events, is "This is what I believe will happen." Then, "Will this transformation be good or bad for children?" My response, "It will be both, but mainly, it will just be different."

THE STATUS OF MICROCOMPUTERS IN SPECIAL EDUCATION

This status report is actually divided into two parts: (1) what's happening now and (2) what you could do with a microcomputer, if you have only limited access to one.

Once again, the car will serve as an analogy. Going back to my youth, the impact of microcomputers today is much like Saturday night in the back seat of a '55 Chevy--lots of talk and very little action.

If there is one word that best describes our view of microcomputers in education, that word is hesitant. There are many reasons for this hesitancy. Some are:

1. We know a computer when we see one, but we don't know what it can do.
2. Cost--while today, with a manufacturer's rebate, you can buy one "real" computer for under $50.00; a functional home educational system (computer, monitor, 2-disk drives and miscellaneous connectors) will cost just under $3,000.
3. Immediate obsolescence--advances are occurring so rapidly that the computer you buy today will be obsolete tomorrow.

4. The cost of placing enough computers in the school so that every child has adequate access to one.

5. The discrepancy between hardware and software development.

6. The drill and practice mentality of software developers.

Given that, despite the fanfare, computer usage is developing slowly, exactly what is happening--now. To answer that, I should tell you that my associates at Penn State and I are just initiating a project to develop a computer assisted instruction program titled "Technology Applications for Handicapped Persons." That project is in its initial stages, and my impressions are very general at the moment. However, by September we should have an extensive information base. So, this is what I think is happening; or will happen soon.

1. Over the next five years, public schools will purchase computers, to the maximum extent that their budgets will allow.

2. Since anyone with a computer, two disc drives, and an author program can create "software," many people will. However, 99% of that software will only be distributed locally, in the same way that most teacher-made curriculum guides are used locally, and not distributed commerically, on a national basis.

3. There are a few little known but major collaborative efforts between curriculum publishers and computer companies to translate the regular elementary and secondary curriculum to computer assisted instruction programs.

4. There are a few national projects, e.g., the Microsift

project at the Northwest Regional Lab, that are attempting to identify and evaluate the current explosion of software.

5. There are a limited number of federally funded projects that act as information collection and distribution centers for computer usage. For example, our university participates in an electronic mail system called Special Net. It contains many unique information bulletin boards, including a new one called SLATE, which is managed by a DC area consulting firm, Education Turnkey Systems. It collects and "publishes" information on a variety of topics related to the use of microcomputers in the schools.
6. There are currently a few, low budget technology assessment projects funded by the Department of Education--Special Education Programs. These projects have just been funded, and most will start on July 1.

These are fairly broad scale efforts. You will note that none of them address the potential of computers with specific handicapped groups. For example, it might be interesting to determine if "EMR" students learn to program a computer in BASIC or LOGO any slower or faster than so-called normal students. Such an effort may be underway somewhere in the country, but it has not yet come to my attention. At the same time, to the best of my knowledge, there has yet been no concerted effort to bring together experts in learning, in curriculum development, and computers, to explore novel ways to develop interesting programs.

What could you do if you were given a computer for your special

class or resource room? My first priority would be to use it as a data storage system for my students' individual, daily performance records. Tomorrow, I will describe a system for parents to use, to analyze the instructional process. A key component of that system focuses on the question, Where are the data? Or, Show me that my child is learning. As you are aware, one of the unique problems of special education is its inability to document that it is effective. Not that it isn't, its just that the field has not developed an effective way to (a) teach precisely, on an individualized basis, (b) document the effects of instruction, and (c) make data based curriculum changes. So, I would set up a data file on each student. I would encourage students to enter their own data, and help other students who may not initially have that skill. I would look for a software program that displays child performance daily, and using a system of decision rules such as those incorporated in precision teaching and direct instruction techniques, I would consult with the student when there is no progress for three days.

This strategy may seem quite mundane to you, but it has these benefits:

1. it may create a data base where none now exists;
2. it provides adept students the opportunity to manage part of their instructional program;
3. it creates an opportunity for students to learn new skills, then teach them to others;
4. it involves the student and teacher in a unique form of dialogue, as they cooperatively plan and modify the instructional

program;

5. it may accelerate student performance, if the data show progress and a high degree of success;
6. it frees the teacher from one management task; or it adds an element to the instructional process at little response cost to the teacher;
7. to the extent that students show they are learning, individual parents may become strong supporters of the teacher and the instructional program; and
8. to the extent that the teacher, student, and parents use the data as a basis for program change, parent involvement in the IEP process will reach the level that Congress intended when P.L. 94-142 was passed.

The next thing I would do is buy some computer games and use the computers as a contingent reinforcer. I might also buy a copy of Homme's book "How to Use Contingency Contracting in the Classroom" and use it to develop a systematic plan for using access to the computer to increase students' performance in the school subjects that are least reinforcing for them.

Next, I would look for the computer wizards among the elementary and secondary students, and I would offer them some type of incentive to work with my students--to teach them how to program the computer. Then I would sit back and watch what they produce.

Next, I would look very carefully at any existing software courses or lessons being considered for purchase. Of the many questions one might ask,these would guide my decision-making:

1. Has the developer transformed the same material from print to screen? If so, is there any fundamental difference between the book form and the software package?
2. Will the program do something different than you as a teacher might do? If not, is it worth the price? If so, what are the critical features that might enhance learning?

I hope you understand that these mundane uses and basic questions are presented in a way that is intended to encourage you to look at the microcomputer as another instructional tool. While I believe it to be a powerful and potentially effective tool, there are many problems yet to be solved. There is a great deal of research that needs to be conducted, and most of all, there must be a major development thrust to decrease the discrepancy between hardware and software development. Having said that, I will move on to the next telecommunication systems in a future society.

2100 AND BEYOND

This view of the future is based on two major sources: (1) my previous work with home based, computer-controlled telecommunication systems and (2) concepts from Alving Toffler's book The Third Wave. This view is a variation of other, published versions, and is one of a series of constantly changing scenarios that, time and resources permitting, will evolve into a book length manuscript.

LIFE IN A FUTURE CULTURE

My objective is to describe life for an individual family in the year 2100, synthesizing Toffler's concepts to create a scenario which is, in my view, feasible. Elsewhere, I have elaborated on the

rationale for this and not another view. Here are, in brief, the most critical factors: (1) "prosumerism" seems the most likely excape from an inflation trap that has operated to strip the facade of affluence from a credit-dependent and cash-poor middle class; (2) the energy crisis has already altered the travel patterns of Americans and it appears that two-way video and computer communication systems have the potential to reduce the need to travel and thereby sharply reduce petroleum consumption; (3) home construction already reflects a shift to active and passive solar systems and to some extent, homes are designed to include greenhouses. The trend toward developing energy independent and food producing home environments has begun.

The major premise underlying this view of a future culture is that geographical redistribution of the population will occur. Cities and suburbs will be abandoned and people will move to (currently) less expensive areas where they may produce their own food. In the same way that many small manufacturers have relocated in the midwest, new communities may emerge within general proximity to new versions of industrial plants. In other locales, professionals with similar interest may create communities where they enjoy the climate or scenery, in the same way that, now, Santa Fe, and Taos have developed as artist colonies. These communities will be electronically linked to businesses located throughout the country. Words and data will be transmitted between home and office by cablesatellite systems and, in return, pay for work will be similarly transmitted. Homes in these communities will be dispersed on enough land to grow foods. Homes may contain greenhouses so that year-round production is possible. There may

be communal development projects, i.e., shrimp or fish farms that are maintained by shared labor. There may be shared systems that comprise ecological cycles, i.e., dairy farms, manned by shared labor, providing food for the community, farms that process manure into methane gas in a simple converter that then generates electricity sufficient for community needs.

Home design will evolve naturally from current innovations, new roof design to support active solar panels, modularized interconnected living spaces for extended family clusters, containing work and living areas. Computer control centers will monitor the environment to minimize energy use and to automatically carry out mundane tasks on preprogrammed schedules. A variety of remote computer terminals will perform several functions: learning for children, work for adults, and so on. Home entertainment centers using laser/holograph imagery may bring Broadway plays into the home, transmitted by cable and satellite from Broadway, or from artist centered communities, which evolve in various parts of the country.

Family life in this setting will be geared to the individual patterns of family members. One may work for pay early in the morning, transmit this product electronically, spend a few hours at work for consumption (gardening) and then enjoy leisure time. Another may work on quite the opposite schedule, a pattern that will permit shared parenting. Where there is a severely developmentally retarded family member, this more casual life style may ease the task of child rearing in many ways, described in the next section.

HOME INTERVENTION FOR A SEVERELY HANDICAPPED INFANT

This scenario begins with the birth of an infant who manifests severe and multiple handicapping conditions, although advances in pregnancy monitoring make it likely that these problems are known and advance preparation has begun before birth. A central agency will be informed of the birth of and a world-wide planning effort will be set into motion. Diagnostic information will be gathered and world-wide teams of specialists will be identified from a resource file. Cleft palate information may go to Paris, heart data may go to New York, and so on, transmitted by satellite within hours of birth. Critical information on the infant will enter several data banks simultaneously. A lifelong, longitudinal research and intervention process will have begun.

While the infant is still in the hospital it will be possible, through two-way video and satellite communication, to conduct a teleconference with a world body of experts who will develop a comprehensive intervention plan for the first few months of life. This plan will, through constant feedback, undergo modification and will form the basis of a long-range intervention plan. The first teleconference will provide experts with a comprehensive set of data on the infant's physical state and will elicit recommendations from experts for specific diagnostic testing. Should the infant manifest a rare syndrome, the central coordination agency will have retrieved, from several computer library storage systems, all that is currently known about the syndrome. When this data is compiled, when all diagnostic tests have been given and the results are obtained, the data will be transmitted to each team of experts.

While the infant is in the hospital, representatives from a coordinating agency will meet with the parents. Their basic objectives will be to present information, to link parents with support groups, and to obtain information about the physical properties of the home. The outcomes of the first meeting: parents will have complete information about their child; they will have the opportunity to talk with the other parents via teleconference and in person, at a time when they most need information and support; a range of educational intervention services will be described; and for the intervention team, general specifications for the design of the infant's home living/learning environment will be proposed.

The central service coordination agency, before the child leaves the hospital, will develop and install an "electronic crib" in the family home. To accomplish this, it may arrange for the loan or lease of data transmission systems for families that lack them, may install two-way communication systems, arrange for the loan of electronic toys, learning devices, and health monitoring systems. Based on the extensive diagnostic procedure, appropriate response recording systems will be selected.

When the electric crib is installed in the home, it will be linked to the family's home computer control system, as well as to external communications systems. If, for example, the infant requires a temperature and air controlled environment because its natural immunity system is impaired, the family computer control system can be reprogrammed to ensure that temperature remains within 1 degree of the defined setting. The electronic crib will contain multiple channel electronic cable

connectors, so that several types of data can be recorded simultaneously. The crib will be spring loaded, so that it is motion sensitive, enabling continuous recording of the infant's activity cycles. Electronic sensors, e.g., a thin temperature tape, will provide data on fluctuations in the infant's temperature. Other channels will record the infant's responses to crib-placed learning devices which are changed rapidly as the infant matures. These data producing systems may be linked to the family computer storage system, or mini-memory systems may be installed so that data is recorded, compressed, or transmitted in high speed bursts, permitting a full days data to be transmitted to another location in milliseconds.

While the infant leaves the hospital for home, the structure for an extensive support system will be in place. It may be possible to avoid a prolonged hospital stay since environmental control and health monitoring systems can be transferred to the home. A fundamental concept in Toffler's view of the future, prosumerism, is that one learns to do things for him or herself. In the late 70's , home pregnancy testing kits enabled women to assume the function, that had until then, been the domain of the medical profession; and, similarly, blood pressure self-test kits were introduced into the mass market. In the same way, it will be possible for parents to monitor their infant's critical health functions. They may be taught certain tasks and observed directly in the hospital. Then, when the infant moves to the home, they may administer tests or take observations under the watchful eye of their pediatrician who observes for a minute or two via two-way video, gives feedback, and verifies that accurate data is

being collected. This rapid transfer to the home will have several benefits for infant and family; it will reduce medical costs, and increase bonding between infant and family. During this time period, the family may receive itinerant services from regional or community based nursing personnel, if there are health problems that are not manageable by the family. The quantity, nature, cost, and outcome of these services will become part of the data bank.

Once the infant's health problems are stabilized (or immediately if there are none) an infant education program can begin. This program will take many forms. "Crib toys" may present sequences of increasingly more complex visual stimuli and the infant may be reinforced for orienting responses, tracking, and then discrimination tasks. Response contingent toys, e.g., mobiles, will teach the child the relationship between a response and a preferred event. Gentle vibration on the spring loaded crib, soft music, mother's tape recorded voice and other events will bring the child into interaction with the environment. Continuous data monitoring will document the extent to which the infant responds to various stimuli. These data, overlaid on an activity cycle graph may show patterns of maximal learning time. Parents will be taught specific infant handling and instructional tasks. They may receive direct instruction in the home from an itinerant specialist whose visits, once initial training has occurred, are greatly reduced in frquency and are replaced by video monitored sessions which provide two-way communication (feedback). A team of interventionists will teach the infant, teach the parent to teach the infant, and then withdraw to a monitor role. Obviously, training may extend to other children, and members

of an extended family unit, or to neighbors who wish to support the family.

Computer technology will change to match the child's needs through the developmental years. When crib toys have been outgrown, they will be replaced by simple response panels, e.g., the match to sample panels. Later, simplified computer terminals may be used, and finally the young child will interact with standard terminals, however they are designed in the 22nd century. Thus, computer-child interaction will be a central and continuous part of the child's education. At certain stages, computers may perform functions that are possible now in only a rudimentary form. It is now possible for computers to talk and listen to humans. Research and development efforts in speech synthesis, computer grammars, and voice recognition will make it possible for computers to play a significant role in the infant/toddlers speech and language development. Computers will voice print emergent speech sounds, recreate those sounds as digited signals on tape, reproduce those sounds from memory, "model next appropriations to words" and shape speech sound production into meaningful utterances. In some cases, the computer and infant may interact in a rudimentary grammar which is then translated into the standard language of the culture, so that the computer functions as an interpreter. At later stages in the child's development, the computer may give directions, listen to vocal responses, and guide the child through beginning reading exercises.

Throughout the child's educational career daily data collection will occur. An extensive longitudinal profile will exist for each severely developmentally retarded individual. Since every intervention

will be recorded, it will be possible to immediately determine the effect of one intervention upon another. It should be possible to determine the effect of one intervention upon another. It should be possible to determine the rate of concept acquisition and observe changes in acquisition patterns over time. Then, when other interventions occur, their effect on the acquisition slope will be noted. Suppose that a child is administered a drug which alters seizure activity, but also reduces concept acquisition. Such an effect will be noted immediately and most probably, decision rules will be developed to determine when to change the intervention. Or, assuming parents will be taught the errorless learning instructional technologies now developed in rudimentary form, it will be possible to determine the extent to which they can assist their children to learn at high and error-free rates. If correct responding drops and errors occur in those tasks outside the domain of computers, the change in performance will show up immediately. This change will signal the central monitoring agency to contact the appropriate interventionist, who may first observe parent-child interaction from a remote location, suggest remedial strategies, monitor data; and if no change occurs, visit the home for a closer analysis of the problem.

SUMMARY

In this future view, education is considered a lifelong experience; again, providing data to research teams who work constantly to increase the effectiveness of procedures. In the culture of the future the home centered "electronic" cottage, located in communities where high technology information management, cooperative home and child management, and individual and group manual labor are carried out within the rhythm

of an individual living unit, the life chances of the severely developmentally retarded infant should be greatly increased. The immediate, intensive, and sophisticated intervention systems should enhance or elaborate the person's response repertoire to a level only dreamed of today. As the child grows in the community of the future, he should experience support from a "family" that extends into the community. Some of that family may care for him for short periods, a voluntary "respite" contribution to assist the natural parents. In some instances, the child may require such intensive intervention that long-term tutorial support is provided in the home, but only rarely would a "school" program be necessary. Similarly, for severely handicapped adults, the extended family unit may provide independent living at home or in future versions of today's group homes. Nowhere in this future view is there a vestige of the warehousing institutions which manage to perpetuate themselves today. In this future culture, where there is both humble and highly sophisticated work, there will surely be work opportunities for the severely developmentally retarded which are meaningful, satisfying and which contribute to individual and community sustenance. Though this culture may be very different from the culture of the 20th century, the potential for a normalized productive life style appears without question for those who today would be called developmentally retarded--and for the rest of us as well.

Movement from Program to Program at an Early Age: The Early Childhood Transition Process

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Moving from a program in one agency to a program in another agency is a time of stress and uncertainty for the families of young handicapped children. That children will move (or transition) from one agency to another is a certainty. These periods of transition, times of change, times of stress, times of conflict, need to be handled with care and pre-planning in order to insure appropriate programming for the child as well as stability for the family.

There are numerous issues and problems in the transition of children between agencies. These include; who will be involved in the planning, how the planning will occur, when activities will take place, as well as what needs to be planned. The Early Childhood Interagency Transition Model was developed to address these issues.

How the model was developed

The Early Childhood Interagency Transition Model is a product of the Single Portal Intake,Project, a Handicapped Children's Model Project funded through Special Education Programs, U.S. Department of Education. Additional support comes through the Regional Interagency Center which is funded by the Washington Office of the Superintendent of Public Instruction, under the State Implementation Grant. The Early Childhood Transition Model was developed in cooperation with parents, administrators, assessment personnel, and direct service staff.

The first step in developing the model was to interview personnel that participate in interagency transitions. Existing procedures,

problems, and suggested strategies for improving the process were identified. Interviews were conducted with administrative, assessment and direct service personnel from school districts, Head Start programs, Early Childhood Developmental Centers, Neuromuscular Centers, and other contractual agencies in Washington and Idaho.

Parents of children who had been through a transition were interviewed about their role in the transition process and their satisfaction. Parents of children who were going through a transition were interviewed over a 6-month period at regular 6- to 8- week intervals in order to ascertain their concerns regarding the transition process and their recommendations for improvements.

The Early Childhood Interagency Transition Model was field tested in urban, suburban, and rural communities in eastern and western Washington. Parents and administrators, assessment personnel and direct service staff from public schools, Early Childhood Developmental Centers, Head Start programs and a contractual agency participated in the field testing of the model. Children served by the transition field tests were from 3 to 8 years old. The model was revised based on the field test evaluation results.

Purpose of the Model

The focus of this model is the transition of handicapped children ages three to eight from Early Childhood Developmental Centers, Neuromuscular Centers, Head Start programs, and other contractual agencies into public school programs. The model may also be used for children moving out of school district programs and into a contractual

agency. The model will improve the transition process for the children and their parents, and for administrative, assessment and direct service personnel of both agencies.

The model was designed to ensure a successful transition for young handicapped children which includes the active participation of the primary individuals involved. Who is involved with such a transition? Major participants include: the child, his or her family, and administrative, assessment, and direct services personnel from both agencies. Indicators of a successful transition include:

- understanding by everyone of the what, who, how, when and where of the move
- the timely transfer of records which are useful to the receiving agency
- minimal disruption in programs or services
- the adjustment of the child to the new program.

The model procedures provide direction to administrators, assessment, and direct service personnel as well as to parents in planning and carrying-out the transition. The strategies do not focus on activities which directly involve the child, but rather, on the activities of the adults working on behalf of the child.

The model has been organized into six issue areas. Each issue area includes: 1) a set of strategies, 2) required actions, 3) who is involved, 4) statement of purpose, 5) expected outcomes, 6) time required and 7) additional costs. All of the materials required for implementation, as well as methods for evaluating the model procedures are provided in the model. Strategies are presented for:

A) Transfer of Records

B) Timing

C) Awareness of Programs

D) Parent Involvement

E) Decision Making Process

F) Post Placement Communication

Explanations, guidelines and forms are included with each strategy. Each may be modified to fit individual needs.

Each strategy can be used in isolation or in conjuction with other strategies, depending on the needs of the transition partners. The following list identifies the 6 issue areas by capital letters (e.g., A, B, C). The strategies that accompany each issue are listed underneath the issue and are labeled with the issue letter and a number (e.g., A1, B1, C1).

Issue Areas and Strategies

A. TRANSFER OF RECORDS

A1: Receivers specify type of information and desired format they need, then negotiate information exchange with senders.

A2: Senders develop a list of current assessment data which is available and negotiate information exchange with receivers.

A3: Feedback from receivers to senders as to the use of information for determining eligibility, deciding on placements and for planning.

B. TIMING

B1: Receivers specify desired timelines for transition. Based on proposed timeline, due dates are mutually agreed on. These due dates should include ones for: notification of who is leaving, transition conferences, exchange of records and other pertinent transition events.

C. AWARENESS OF PROGRAMS

C1: Joint Awareness of Programs-inservice staff training for senders and receivers.

C2: Reciprocal visits to programs by sending and receiving staffs.

C3: Receivers develop a criterion-referenced entry level generic skills checklist based on the ability levels of children currently enrolled in the program to assist with pre-planning for the transition.

D. PARENT INVOLVEMENT

D1: Written guidelines are provided to parents to assist parents with the transition.

D2: Written guidelines are provided to staff to assist parents and children with the transition.

E. DECISION MAKING PROCESS

E1: Parent transition group meeting is held, co-sponsored by both agencies.

E2: Senders and parents complete a Child Summary Form. The Child Summary Forms are reviewed by receivers as they prepare for placement decision meetings.

E3: Formal Transition conferences are held with receivers, senders and parents in attendance.

F. POST PLACEMENT COMMUNICATION

F1: Senders call receivers 2 weeks following placement to talk about specific children and to check that records were transferred.

These procedures have been field tested in three separate sites and final revisions to the model are almost complete. The overall findings of the field testing indicate positive outcomes. Staffs of the agencies have come to respect and better understand each other when there is systematic planning and discussion around transition issues. Awareness of each other's program leads to understanding and cooperation. Parents feel more in control and as a result more positive about the new program. The "match" between individual child programs across agencies is higher after the use of the model. This includes earlier implementation of programs in the receving site as well as continuity of goals, objectives and instructional procedures.

We believe simple, straightforward procedures such as those found in the Early Childhood Interagency Transition Model will have a major impact on the lives of young handicapped children and their families. Because the activities required to execute a successful transition are simple, and logical, they are often overlooked or initiated too late to be effective. Successful transitions require careful planning which begins early and involves parents, sending and receiving staffs. This model provides a format for that planning.

Peer Support as a Mediator in Stress Reduction for Parents of Children with Disabilities

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Unquestionably, the birth of a child with a disability is a cause for stress among family members. Simply having a child produces some stress for parents (McGuive and Gottlieb, 1979; Wandersman, Wandersman, and Kuhn, 1980); if the child has a handicap, the stress increases (Birenbaum, 1971; Friedrich and Friedrich, 1981; Hannon, 1974; Holroyd and Guthrie, 1979; Holroyd and McArthur, 1976; Howard, 1978; Olshensky, 1962) for the parents and other family members who were expecting the arrival of a healthy baby. The shock of a "not perfect baby" is devastating. The gradual suspicion that"something is wrong" (as in the case of the first few monthsof life with a child with cerebral palsy) can also lead to tension, depression and the general responses to depression and stress.

Although the stages may vary, the Family's acceptance of a child with a disability follows a somewhat predictable course. There is shock and disbelief, followed by an overwhelming desire to "know why" (Hannon, 1974). "Why did this happen?" "Am I to blame?" Who is to blame?" What is to blame?" How did this happen?" This phase of often followed by anger, especially when there are no clear cut answers to the previous questions (as in the great majority of the cases). Discomfort follows, often caused by the social pressures of the situation. "What will I tell my mother-in-law?" "How do we interact with the neighbors?" "What will the older child tell his playmates?" Uncertainty due to the demands of the child disability often adds both physical and emotional stress. A child who is difficult to feed increases a mother's fatigue. Medically fragile children are a

constant source of anxiety for the parents, and keep them in a state of uncertainty - about the life of the child and about their own adequacies. Frustration, follows. The pressures mount with the need to locate medical, educational, and therapeutic services for the child; to interact with a variety of professionals, and to deal with the financial strain of acquiring these services. The journey is a long one before the family resolves the issues involved in caring for a child with a disability.

Too much stress impairs function. While the exact amount of stress which is "too much" may be variable for different family units, there can be little doubt that the introduction of a child with a disability into a family is "too much stress," at least at first. The feelings of grief, sadness, anger, frustration, helplessness, and often incompetence lead to a sense of lack of self-worth. Interpersonal relations among family members often deteriorate. Relatives, friends and neighbors often simply do not know how to respond to the situation and withdraw. The family isolates itself from its support system. Daily routines suffer, as family members who can escape usually do so. Often the father spends more time at work, and older children more time in school, leaving the mother in still greater isolation. Individual reactions to the grief and anger may be misunderstood by others in the family as placing blame. The vicious cycle of negative interactions feeds on itself.

How any single family unit responds to stress produced by a child with a disability will vary greatly according to the individuals, the educational levels, the religious beliefs,past experiences with dis-

ability, ethnic background, socio-economic status, and total family make-up. All families, however, will experience increased stress. The issue, then, becomes how to best reduce (mediate) the stress.

There appear to be four (4) major types of support that can serve to alleviate the negative aspects of stress in families: 1) the presence of a significant other; 2) peer support; 3) timely and accurate information; 4) specific skills related to immediate issues. The research literature clearly indicates that the presence of another individual who unconditionally loves the person under stress (significant other) serves to significantly decrease the negative effects of stress. Outside intervention that provides people with "significant others" is usually (understandably) not a major function of social service systems. Peers (in this case other families with handicapped children) provide family members with realistic empathy, an extremely important ingredient in reducing stress (McGuire and Gottlieb, 1979; Wandersman, Wandersman, and Kuhn, 1980). Peers may also be the sources of information. Timely and accurate information can be used by the families to acquire services, adjust to social situations, respond to specific child needs, and plan for potentially troublesome future events. The emphasis must be on timeliness (information when there is a perceived need by the family) and accuracy. When supplied by peers the information is often viewed as more believable than when supplied by another source. Finally, the most crucial skills are those for managing specific child behaviors that are of immediate concern to the family, and those required to adequately interact with the untold

numbers of professionals in the maze of social services in which parents will find themselves.

The remainder of this manuscript will focus on the role of peer support in mediating stress for families of children with disabilities.

Peer support has been discussed in detail by a number of authors (Caplan, 1974; McGuire and Gottlieb, 1979; Stanifer, 1964; Wandesman, Wandesman, and Kuhn, 1980). Social support (the broader concept under which peer support falls) is defined as a condition in which an individual believes he or she is cared for, held in positive regard by others, and is part of a network of like individuals. There is also the need to explore socially accepted norms around a common event, provide skills and information, share common experiences and feelings, and develop a feeling of "we'ness." Peers, individuals with a common experience, come together at a deep emotional level if the focus is confined to this common experience. Thus, individuals who are <u>not peers</u> according to many variables can relate on the one specific issue which has defined them as peers. Contact with similar others (McGuire and Gottlieb, 1979) allows for the exploration of social comparison through the sharing of common experiences, feelings, and information.

Families during the transition into parenthood tend to lose contact with their social support system. When the new child is handicapped the social isolation often increases. The need for peer support dramatically increases at the exact time when isolation from social contacts occurs. Parents of young handicapped children <u>seldom</u> come together without assistance from an outside agent. Thus, even

though peer support is a (if not the) crucial service for parents of young handicapped children, special procedures must be developed to facilitate the "coming together" of parents.

Needs met by peer support groups. The activities of a parent to parent support group for parents of young handicapped children must be directly related to the needs of the parents: information, emotional support, connections with system components.

There are at least three classes of information often requested by parents of young handicapped children who ask the following questions: what is the nature of the disability and what does this mean for the future of my child? How do I (we) respond to others in informing them about my child's handicap? What should I do next? These questions are persistent and enduring regardless of the answers given at any one time. Thus, even if medical personnel provide extensive information to the parents at the initial informing session and even if adequate written materials are made available, the parents will continue to have questions about the nature, cause, and outcomes of the disability. This is only natural as time is required to develop questions, and to assimilate answers; as noted by Hannon (1974), it doesn't matter what parents are told, what they hear is what matters. Ongoing contact with another parent of a handicapped child offers the new parent opportunity, over time, to think about questions, ask them and listen. Additionally, the answers from a peer tend to be believable.

New parents face a social situation which is very difficult to understand unless they experienced a similar event; how do you inform relatives, friends, and neighbors about your child's disability?

Many professionals (myself included) do not feel comfortable in advising people on this. Having the opportunity to discuss this situation with another person who has been through it before can greatly reduce the stress and anxiety of the task of telling mother-in-laws, work colleagues, and neighbors about the child.

How to access "the system", where to go for services, who are sympathetic professionals, what to expect from a teacher or a physician or a physical therapist, how to fill out forms --- these are questions that cannot be answered at one time. They produce stress unless there is a method to get them answered (or at least someone to listen). No one (or even two or three) professionals can fill this role. What is needed is an empathetic, available "ear" who has information to share --- a peer.

Emotional support. Empathy, the projection of one's consciousness into another being (Webster's New Collegiate Dictionary), is based upon the awareness of having undergone similar experiences. I truly believe that I cannot empathize, totally, with a parent of a child with a disability. I am a parent but my children are not disabled. I have talked to many parents of children with disabilities, I have read and thought about the issues, but I have not felt the feelings. Real emotional support comes from empathetic peers ---people "with nowhere to hide, you look in their eyes and find yourself" Willie Nelson, Red Headed Stranger"). Peers are able to allow one to cry, to say awful things, to be out of control --- because they have been there. The message that passes between two individuals who share a common experience is a private message outsiders cannot understand. To have a peer

available is to have emotional support.

Connection with system components. Hooking into the system is a complex process. Information must be made available in a timely manner (what services are needed, what programs are available, how to "get into" programs). However, the parents often need a "guide" to assist them in the routines if necessary to efficiently locate and enter programs. Professionals, with turf issues and their own ideas as to what is needed and what is best, are seldom the appropriate persons to assist parents in locating all the needed programs. Peers, parents who have recently been through the identical process, are the logical guides.

Recommended Components of a Peer Support System

Peer support systems do not just occur; they need to be planned, supported by a formal agency, and maintained over time. There are several components that were important in developing and maintaining the King County Advocates for Retarded Citizens Parent to Parent Support Program which I will summarize here (see reference note for King County ARC contact).

Parent leadership. The leadership in the program is best facilitated by parents. Professionals have roles (see next section) but parents need to have the leadership. A peer support program needs a peer as the leader. A small group of parents who have the skills, time and energy to serve as an advisory board is absolutely crucial.

Professional support. Professionals are important as ongoing consultants to the program. The role of the professional is to consult

(when asked), recommend, and provide information. Decisions, however, must be left to the parent advisory board.

Parent education. Special skills are required to be a supportive peer (a helping parent). Most important are the skills associated in listening without "telling" reflection or active listening. Information referral and crisis referral are also important. Part of parent education for the helping parents consists of ongoing peer support from other helping parents - parents getting together and reflecting on their own experiences.

Medical community sanction. Most referrals of new parents to the program probably originate in the medical community. Therefore, the sanction of the peer support program by the medical community is essential. A medical advisory board is a possible strategy for meeting this concern.

Paid staff. Peer support programs that endure are dependent on paid staff. If at all possible the paid staff should be parents. There certainly is ample room for volunteers, but peer support is so important that society needs to value the activity by paying the staff.

Mother agency. A peer support program needs an umbrella agency to host the program. This agency provides space, backup support, and a focal point for outside support. Although any community agency may serve this role, a logical agency is an Association for Retarded Citizens or other parent support organization.

In conclusion, peer support is absolutely crucial for families with disabled children. Peers, other parents of handicapped children, can best supply new parents with information and assistance. More important, peers provide empathy. All of these are important stress mediators.

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1. Helen Pym, Coordinator, King County Advocates for Retarded Citizens Parent to Parent Support Program, King County ARC, Seattle, Washington, (206) 622-9242.

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Early Intervention Today: A Program Example

Keynote Address

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Miles is a 2 1/2 year old. Born at 29 weeks gentational age, and weighing two pounds, Miles' chances of survival were uncertain. More uncertain was his future development given the complications surrounding his birth. Today at 2 1/2 years Miles can walk and talk and is learning to toilet independently. In short, he closely resembles his playmates and his parents are seeking a preschool program for him in an integrated setting with normal peers. Though intellectual tests on Miles reveal normal cognitive development, Miles has significant motor and speech developmental delays. The road from his birth to a preschool program has been an arduous and joyful one for his parents. Consider his mother's description of the events after his birth.

> Like every expectant parent I had a mental image of what our child would look like and who he or she would resemble most. "He" (I had already decided it was a boy!) would be a chubby healthy baby and the envy of all the new parents on the maternity ward. As it happened, I couldn't have been further from the truth.
>
> When Miles made his appearance nearly three months premature and weighing only two pounds, I cried at my first glimpse of him. He was so incredibly tiny and so pathetic. I was reminded of the detailed pictures of a developing fetus in Nilsson's famous book, "A Child is Born". His head was the size of an orange and his skin was transparent. He was covered with a downy hair, "lanugo", which usually disappears in the last few weeks of pregnancy. His movements were jerky and disjointed, and he seemed confused and upset by his new surroundings.
>
> I was filled with emotion. One moment I'd want to gather him up in my arms and reassure him that everything would be fine and the next moment I was afraid to touch him or get too close to him for fear he'd die and I wouldn't be able to cope.
>
> When I left the hospital a few days later, I was no longer pregnant yet I had no baby to carry home with me. At times it seemed like I had imagined Miles's birth. I felt empty and sad. Each day that I visited Miles I never knew what to expect. I often wondered if he'd still be there when I arrived.

Since Miles' lungs were not fully developed at birth, he needed a respirator to help him breathe. With the respirator and a multitude of other paraphernalia attached to his fragile body, I was unable to hold him. I tried to compensate for this by stroking his thin little body and talking to him. I remember distinctly asking a nuse, "Do you think he hears me talking to him?" And over and over again I would ask, "Do you think he knows who I am?"

As the chances of Miles' survival increased with each passing day, so did my confidence at mothering him. I would stand for hours at the side of his incubator reaching through the portholes and massaging him. I would always begin by rubbing his temples and saying, "Miles, it's your Ma Ma here." I became convinced that he would come to know me through my touch.

To help insure a healthy weight gain for Miles I rented an electric breast pump and faithfully used it every few hours. My milk was given to Miles through a tube inserted in his mouth and leading directly to his stomach. It gave me a deep sense of satisfaction to see him grow and thrive on my breastmilk. I knew it was something I alone could give him and it helped reassure me that I was important to Miles.

Three weeks after his birth, when Miles was no longer on the respirator I held him for the first time. He was bundled up tightly and wore a stocking cap. I kissed his tiny face and put my cheek against his. I wanted so much to take him home.

Seven weeks later when Miles finally did go home I was both extremely happy and frightened. I had come to rely on the hospital for Miles' care and now, suddenly, I would be his primary caregiver. To my relief, the transition from part-time mom to full-time mom was much smoother than I had envisioned, and Miles and I couldn't have been happier.

Kathy Reed
Parent

(Hanson, 1983)

This description of Miles raises many issues with respect to early intervention. I would like to discuss two of these issues with you today:

1) the goals of early intervention;

2) the effects of early intervention.

Intervention Goals

Let me begin with the topic of goals. A major goal of all educational or therapeutic interventions is to facilitate the child's development. In early intervention this may mean teaching the child new skills or preventing a condition from becoming more severe. Since most of us are professionally linked to education, these goals represent common practice in the field, albeit not necessarily with infants. To this important goal of facilitating the child's development, let me add a second -- the goal of supporting early positive parent-infant interaction. In our quest to "treat" the child we have often failed to consider this crucial issue. Failure in this area may actually undermine our attempts to help the child. If we return to the case of Kathy and Miles we witness a very fragile beginning -- a child born too early and unable to interact with his mother, a mother's expectations of the baby she would deliver violated. Yet it is evident from observing Miles and Kathy today that a healthy attachment exists between the two. The great developmental strides made by Miles can be attributed largely to the effort of his mother and father. In this case even though the infant was born at significant risk, a supportive and nurturing family ensured a positive developmental outcome. The child at risk born into a family which fails to support early development is at double jeopardy for achieving a positive outcome. Likewise the child born without risk but living in an at-risk situation may or may not develop optimally. Envision four possible beginning scenarios for any child:

1) the at risk child in a nurturing enviornment

2) the at risk child in an at risk environment

3) the typical child in an at risk environment

4) the typical child in a nurturing environment.

It is evident that at least three of these children may be at significant risk for developmental problems.

Early intervention programs for disadvantaged children have been aimed at the third group listed and have shown great promise at preventing developmental delays. However, this early intervention approach must be expanded to include other types of parental or family risk, such as mental illness, to ensure that these babies too develop optimally.

The major concern for most of us in special education is the at risk or atypical infant; this infant may or may not be raised in a supportive environment. Only through active intervention and support of positive parent-infant interaction can we hope to effectively achieve optimal results with these babies. Programs geared toward this population of children have been available for over a decade on an experimental or limited basis. However, the results of these programs and needs expressed by parents have contributed to their expansion around the country.

An example of one such program is our San Francisco Infant Program.

Let me briefly describe this program's components which include:

1) services to children;

2) parent involvement;

3) a transdisciplinary team approach;

4) a research-based model.

<u>San Francisco Infant Program</u>

NOTE: This program description is provided in the journal article appended to this paper:

Hanson, M.J. A model for early intervention with culturally diverse single and multiparent families. Topics in Early Childhood Special Education, 1981, 1, (3), 37-44.

Intervention Effectiveness

The second major issue I would like to discuss today is that of early intervention effectiveness. For years a debate has raged in various professional circles over whether or not early intervention for at risk and disabled infants "makes a difference". This debate is likely to continue given the scarcity of resources to support health and social services. At the center of this debate is a handful of studies, most of which provide evidence supporting the provision of early services. However, the experimental rigor of many of these studies has been questioned. Scientific inquiry in the medical and social sciences typically demands the use of experimental designs which compare an experimental or "treated" group with a group which does not receive the treatment. Due to ethical and practical considerations most intervention studies cannot employ this type of research design. Therefore, the research in this area often has focused on comparing experimental subjects' gains to typical developmental expectations for the group in question or to some predetermined rate of development. Further, this work almost exclusively has centered on testing for main effects -- the effects on the children's development -- utilizing standardized developmental scales such as the Bayley Scales of Infant Development. With the use of these methods, positive program effects have been demonstrated. However, if we continue to confine our examination of early intervention effectiveness to child change only as measure by these

tests I think we are "barking up the wrong tree." First, developmental scales are not necessarily appropriate instruments for evaluating program effects. Most were not developed for this purpose and insufficiently tap the treament effects. An item, for example, may test for whether or not a child walks but may fail to consider how well, how long or under what conditions the child walks. Further, the potential broader range of treatment effects -- the effects on the family and community and the child's interactions within those units -- are not considered. The effects albeit difficult to systematically measure may be tremendous. Take the case of the child with Down's syndrome. In the past these children typically were institutionalized or at best labeled as trainable. Today most children with Down's syndrome receive early intervention and most go on to learn skills and participate in programs for mildly disabled youngsters. Down's syndrome did not change but our expectations and methods of treating these children did largely as an outcome of our educational successes.

The challenge before us now is not to argue whether early intervention is or is not effective (much like the nature-nurture debate) but to determine the broad range of effects and identify those models which are most effective in assisting children and their families. That challenge does not end until this information is translated at the policy making level to the identification of quality standards for programs and the assurance of a range and continuum of adequate services for disabled and at risk infants and their families.

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A Model for Early Intervention with Culturally Diverse Single and Multiparent Families

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Maria, a 14-month old infant, was referred to an early intervention program at 7 months of age because she was exhibiting muscle stiffness and developmental delay probably linked to birth complications. At the urging of the family pediatrician and because of Maria's extreme irritability, her parents agreed to consider pursuing intervention services. Finding appropriate services was a difficult task, since members of this Latin family speak only Spanish and because both parents are unemployed and with limited financial resources. The parents also have two other young children in the home, one of whom is Maria's twin. A program was located that offered services at no cost to the family in their native language. Though Maria's mother shows a desire to participate in the early intervention program and expresses her thanks for the assistance she receives, she frequently is unable to be involved because of reported restrictions placed on her by her husband. (She also has reported being verbally and physically abused by her husband.) The staff of the early intervention program is working with a number of social service agencies in the city to secure appropriate and comprehensive services for Maria and her family.

Shurell is a 2½-year-old toddler in the early intervention program. Her happy disposition and well-developed social skills ensure positive interactions with her peers and teachers.

Shurell has been diagnosed as hemiplegic and shows a definite need for therapy and training, particularly in motor and language development. Her father, an unemployed disabled Vietnam veteran, is a single parent. As her primary care giver, he brings her to school three times a week and performs training activities with her at home on a daily basis. Shurell appears to be benefiting from her father's teaching and their involvement in the early education program, as indicated by her developmental gains.

Humberto and Shirley were required by a court order to enroll their son Frankie, in an intervention program. Frankie is a severely multiply handicapped 2-year-old, whose disabilities are linked to a head injury at 4 months of age due to alleged child abuse. Frankie's health is good, and no other accidents or injuries have occurred. Frankie attends the program with one or both parents. However, participation is somewhat irregular, reportedly owing to family difficulties. The family lives in the home of Humberto's mother, who is Latin and Spanish-speaking. Shirley has become proficient in Spanish, since the language is spoken at home. Humberto and Shirley report marital difficulties, and Shirley periodically leaves the home. Frankie's grandmother assumes major responsiblity for basic caregiving tasks (e.g., feeding, bathing). Shirley indicates that she is excluded from care-giving responsibilities; Humberto reports

that she is incompetent and unwilling to perform these responsibilities. Given the volatile nature of the family structure, the intervention staff works closely with all family members and with other agencies serving this family to ensure comprehensive and consistent care for Frankie.

Amy's established, middle-class family boasts that all members of the immediate family live close by. Amy was born prematurely 3 years ago at approximately 26-weeks gestational age. Her birth was surrounded by severe complications necessitating hospitalization during the 3 months following her birth. At 13 months she was referred by a pediatrician to an early intervention program with the accompanying diagnosis of diplegia, visual impairments (retrolential fibroplasia), and general developmental delay. Amy's parents have been very active in the parent meetings and workshops, bringing Amy to the program regularly, and performing learning activities with her on a daily basis at home. Amy's grandmother, uncle, and father are to be applauded for their training efforts when Amy's mother was confined to bed with her second high-risk pregnancy. The hard work of this family is reflected by the gains Amy has made across all areas of development.

(Note: The names and identifying family characteristics of the actual families on which these case study examples are based have been changed.)

These four families participate in the same intervention program for developmentally delayed infants and toddlers. The brief case studies highlight the tremendous diversity of families served by a typical early intervention program in a large metropolitan area. How does one program accommodate diverse families, each of whom represents a wide range of needs and priorities?

A model for parent involvement that features four components for serving various families is implemented through the San Francisco Infant Program, a federally funded (Office of Special Education, Department of Education) program for handicapped and "at-risk" children from birth to 3 years of age. Families participating in this early intervention program are representative of the diverse population of San Francisco; races and cultures represented include white, black, Asian and Latin families.

The San Francisco Infant Program combines center- (public school) and home-based service delivery systems in a transdisciplinary model. Parents (or care givers representing the parents) attend the program regularly with their children and also participate in periodic home visits by project staff. This participation is required for a child's admission to the program for several reasons. First, children attend the program weekly for several short time periods, leaving the majority of the child's time spent in the home or at nonschool activities. Second, to change a child's behavior, training must also occur in the other settings outside the school. Third, training focuses on appropriate positioning and handling of children and consistent responding to child's actions, necessitating the active involvement of children's care givers.

Numerous position papers and studies have established the need for active parent participation in early education programs. The rationale for parent involvement provided by these studies centers on the amount of time spent with the child, the need for consistent caring for the child, the quality of parent/child interactions, the reinforcing value of the parent, the cost effectiveness of parent-delivered services, and the success of parents in producing change through their training efforts (Bricker and Bricker, 1976; Lillie and Trohanis, 1976; Vincent and Broome, 1977). Thus parent involvement is viewed as a critical component of the San Francisco Infant Program.

MODEL DESCRIPTION

The San Francisco Infant Program features several components of parent involvement, including classroom instruction on infant skill training and handling, home-training activities, counseling and support services, and the presentation of new information materials.

Training in the classroom

The focus of the center-based component of the San Francisco Infant Program is on assisting parents to correctly position and handle their children, teach their children new skills, and effectively interact with their youngsters. This is accomplished through teacher/therapist demonstration of new techniques, systematic feedback to parents on their performance of infant training programs, and consultation with parents on goal setting, child development, behavior management issues, and scheduling.

Shortly after a child begins the program, staff and parents meet to develop an individualized education program plan for the child. During this meeting staff members present the results of initial child evaluations and classroom observations and together with the parents develop short- and long-term educational objectives. At this meeting parents also develop objectives for thier own involvement by indicating their needs on a Parent Involvement Plan (PIP). (For further information on the PIP, see Brackman, Fundakowski, Filler, and Peterson, 1977; Filler and Kasari, 1981.) Parent needs ranging from medical and transportation services to the need for instruction in teaching infants specific skills are identified on the PIP, and a contractual arrangement for meeting those needs is agreed on by staff and parents.

Since all parents desired to learn more about teaching their children, this is the major emphasis in the classroom. Children in the program are divided on the basis of chronolcgical age into two groups: infants and toddlers. Infants attend school for one 3-hour session per week, accompanied by a parent or care giver; toddlers, such as Shurell, attend school three mornings per week. Parents of toddlers remain for the class program on two of the three mornings and use the third day for respite. During classroom time teachers and therapist meet with parents individually and in small groups to derive new teaching objectives and plans for the children and to review the children's training programs.

The exchange of information between staff members and parents is facilitated by the use of a family notebook in which all plans are

detailed. Parents perform training activities at home on a daily basis and collect data using forms provided in the notebook. The data collection system is a simple procedure in which a chart is produced as data are recorded, allowing the parent to determine through visual inspection if the program is producing change. The data system used is the model described by Hanson (1977).

Parents are encouraged to integrate their teaching activities into daily routines, such as diapering and feeding, and implement the programs and activities throughout the day when the child is an alert learner. Shurell's father, for example, regularly brings his daughter to school, where he is assisted in developing specific programs for her. Though he is rather shy and nondemonstrative, Shurell's progress through the training programs indicates the commitment of her father to carrying out and recording the home activities. Not all parents are regularly able to work with their children or collect extensive information as Shurell's father does. Therefore the number and type of training activites as well as recording procedures are individualized according to each family's needs. Multilingual staff provide information to participating parents from the Latin and Asian communities.

Additionally, though one-to-one instruction is utilized when necessary in the toddler program during classroom time, much of the instruction is performed in small groups to better prepare children to benefit from and succeed in integrated preschool and kindergarten settings when they "graduate".Interested parents in the toddler group also receive additional instruction on how to plan and manage small

activities. Parent inservice workshops are held periodically to train parents in the activities at which they wish to become proficient. Activities range from reading stories to children and planning flannel board story presentations to teaching small groups of children to discriminate and label objects. Thus parent participants in the San Francisco Infant Project receive systematic instruction in specific infant skill training for their child and are provided the opportunity to acquire additional skills in classroom teaching and managing small groups of children.

Assistance in the home

The home component of the San Francisco Infant Program also focuses on active parent involvement. Home visits to program families are periodically made by all staff members; the schedule for these visits is determined on an individual basis depending on family need and desire for home visits. On the average, families are visited once per month.

Given that family members are actively involved in child teaching through the classroom component and that home-teaching programs are developed during that time, that purpose of visits to families at home is to discuss special problems or concerns, review child-training programs, and adapt goals and materials as dictated by family circumstances and home settings. Certain child-training needs are also more easily and appropriately taught in the home using the family's materials and following the schedule.

Working with families in their homes also allows staff members to better understand the family's cultural values and life style so that

this information can be used to develop educational plans for the child. In addition, if the family is not English speaking, conversation between family members and staff members, who may be less fluent in the family's native language or who must rely on a translator, may be held in a less structured environment where more individual time can be taken with the family to fully discuss their concerns and receive feedback from them. For example, Maria's mother is able to more fully participate in the home than the school component of the program given the restrictions placed on her by her husband. Since she speaks Spanish, the home visit provides an opportunity for her to express herself fully at a time when staff members can focus solely on her.

The final and perhaps most important purpose in considering a home-based component to an early intervention program is the involvement of each family member. A home visit is an opportunity for staff members to meet with siblings and a parent or parents who are unable to meet during the classroom day because of their schedule. The home visit program component was of special value to Amy's family, for instance, when all family members had to work together to ensure Amy's continued training at the time when her mother's pregnancy prevented her active involvement. As demonstrated by Amy's family, participation by all family members in employing training strategies and in understanding aspects of the child's development ensures more complete and consistent assistance and response to the child.

Parent support activities

Many parents are faced with difficulties (e.g., marital problems,

serious illness, unemployment), which must be alleviated before they are able to become fully involved with their child's training. Even in families free of such stresses, concerns that dictate a need for support services may arise.

Though not adequately staffed to counsel and assist families in many of these service areas, the San Francisco Infant Program has developed several strategies to accommodate family needs that do not directly involve the child's education. First, one staff member, the parent program coordinator, assumes responsibility for providing direct assitance to parents. This assistance varies from performing an activity with the parents (i.e., filling out an application for services) to giving parents information on available resources such as lists of babysitting referral agencies, national and state agencies serving handicapped children and their families, and local social service agencies (e.g., welfare, mental health).

In addition, parent support groups meet bimonthly for an hour while children are in the classroom. Since children are grouped by chronological age, parents attend support groups with other parents of children of the same age but with different disabilities. The content of the meeting is determined by the parents. Parents of the youngest children have used the groups as a counseling situation, exploring feelings about having a handicapped child and devising strategies for handling relatives' and strangers' responses to and inquiring about the child (e.g., What do you tell a stranger on the bus who asks why your child does not walk?). Parents of the toddlers requested more structured discussions focused on topics such as discipline or behavior management and school placement for children after graduation from

the infant/toddler program. Parents' evaluation (anecdotal feedback and responses on a parent satisfaction questionnaire) indicate these groups are beneficial, and high attendance rates even under difficult circumstances suggest they are a meaningful experience.

A third support service component is the structured review of children's programs at periodic meetings of the infant program staff, the parents, and all social service agencies in the community that are involved with the family. At these meetings, organized by the infant program, staff members present a report on the child's development and progress, and all agencies discuss service provisions for the family. These meetings often represent the first time that various social service agency personnel have met one another and coordinated services. For families such as Frankie's, this coordination becomes critical as a means of ensuring adequate child care and may involve additional meetings or phone calls as necessary to arrange services. Thus the San Francisco Infant Program services as the broker or coordinator in finding needed services for families and for establishing cooperative ties and plans among agencies providing those services.

Parent Workshops

Having a young child with developmental problems is a new experience for most parents and is fraught with anxieties and questions. Many parents share the same need for more information in specific areas. In order to provide information to all participants in the program and involve all family members who may wish to attend, the San Francisco Infant Program sponsors a series of optional workshops held in the

in the evening. Workshop topics are chosen by families in the program and have included legislation and legal issues related to school services for handicapped children, language development, genetics counseling, behavior management, and common medical emergencies.

As with other program components, staff members furnish multilingual written materials or translations as needed and facilitate participation by organizing services such as transportation. Parent workshops provide a systematic and efficent method for presenting new information, a time for parents to socialize and get acquainted, and also a means of involving family members who are unable to attend daytime activities.

STAFF RESPONSIBILITES

The staff of the San Francisco Infant Program include the following members: a half-time project director, a quarter-time parent program coordinator, and a full-time educational coordinator, teacher, and physical therapist. A psychologist, pediatrician, and communication specialist also consult for the project. Staff members are representative of the cultural groups served in the city and most are bilingual, which ensures that culturally diverse populations can be served by the project.

All staff members, regardless of their area of expertise, work directly with parents. The project emphasizes a transdisciplinary approach in that each team member practices "role release" by training others in their specialty area. Parents are active members of this team. Activities are performed by all staff members in the classroom and in the home. The project director manages the system to ensure that the

parents' needs are met and all staff members and parents are actively included.

Through the Parent Involvement Plan, the staff members of the San Francisco Infant Program enter into an agreement with the parents to assist them with identified needs. Many components for parent involvement are offered to families. These include training in the home and classroom settings, parent support groups, referral services, workshops and frequent counseling and discussions with family members. All activities are structured to meet the needs of families from various cultures and family constellations. The Infant Program services are evaluated by analyzing the number of parent objectives met and parent satisfaction with the services provided.

Parents, especially those of very young children, bear responsibility for almost all aspects of the child's life. Long before schools, peers, and other social institutions exert an influence on the developing child, parents must play the major roles needed in raising a child. Though program goals typically focus on assisting parents in these roles, different parents will participate to various degrees, depending on family needs. Such factors as single parenthood, needs of other children in the family, illness, employment, cultural factors, marital difficulties, or financial problems may influence the degree of any parent's involvement at a given point in time.

In addition, programs must be able to accommodate the shifting needs of families, reflected by changes in American life style. For example, recent data compiled by the U.S. Census Bureau showed an

increase from 5.6 million to 8.5 million in the number of households headed by single women. This report also indicated that families maintained by women with no husbands fared less well economically than others and had a median income significantly below that of the national average for all families. Thus early intervention program models must present a flexible approach to type and degree of parent involvement.

Intervention programs, particularly those in metropolitan areas, also must be able to offer services appropriate to a wide variety of cultural/ethnic groups. In San Francisco, for example, categorization of the population by ethnic group and race from current data (1980 U.S. Census Bureau) estimates that 11% of the population is Black, 22% Asian, less than 1% Native American, 46% White, 14% Spanish-American, and 7% other ethnic groups. From a program development perspective, issues in serving a culturally diverse population include providing services to families in their native language, acknowledging family values and priorities dictated by the culture, and incorporating training into the family's defined roles for parents and children (e.g., a matriarchal family structure where the mother assumes all responsibility for child-related activities and the father does not actively participate).

No program can be expected to satisfy all community needs. However, given the established practice that parents can and should be an integral part of an early intervention effort, models specifying levels of parent involvement must present a spectrum of services to meet parents' needs and a flexible approach to the type and degree of

parent involvement at any given point in time. The underlying principle dictating services available for parents must be that those services are in the best interest of the child.

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COST EFFECTIVENESS

A Critical Survey of Cost-Effectiveness Analysis in Human Service Research

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Introduction

Role of Cost-Effectiveness Analysis in Evaluation Research

Evaluation research should provide a decision-making framework to identify program and policy alternatives which achieve social objectives (Levin, 1975; Thompson, 1980). Unfortunately, evaluation researchers have traditionally only focused on the identification and measurement of program benefits, typically dwelling on the statistical significance of the outcome measures. Because any social alternative results in outcomes as well as expended resources (costs), a truer indication of the net worth or impact of a given alternative includes not only an assessment of program outcomes or effects, but also a concurrent examination of program costs or sacrificed resources. The vast majority of program evaluations in human service research do not even report costs, let alone analyze them. With the growing consciousness that public funds and other resources are finite, evaluators and decision-makers are recognizing that program effects which are not considered in the context of associated sacrificed costs may not suffice to justify program funding.

The primary role of cost-effectiveness analysis in evaluation research is to identify that alternative or strategy that maximizes the desired outcome for any particular resource or budget limitation (Levin, 1975). In the current realm of social program policy-making, the costs as well as the effects of alternative strategies must be considered in order to maximize the use of limited resources devoted to the public welfare. To represent a responsible allocation of scarce resources, a program will be required to demonstrate the practical significance of

its benefits. It will no longer suffice to base policy and program decisions on statistically significant results in outcome alternatives; the alternative which appears more effective in terms of comparative outcomes may have costs associated with it which outweigh its superiority in outcomes.

Cost-effectiveness analysis does not represent a radical departure from conventional evaluation research. Rather, it provides a framework for integrating cost variables into accepted experimental or quasi-experimental research designs. In order to make cost-effectiveness comparisons, data regarding the differences in the effects of particular alternatives are combined with data on the costs of implementing the alternatives. From among two or more alternatives, these comparisons identify which alternative will maximize desired outcome(s) for a given level of cost.

Cost-Effectiveness and Cost-Benefit Analysis Differentiated

For purposes of clarity, a brief comparison of cost-effectiveness analysis with the closely related method of cost-benefit analysis is useful. The framework from which cost-effectiveness analysis is derived is the more general cost-benefit analysis (synonymous with benefit-cost analysis). Cost-benefit analysis provides a means by which both the value of the benefits and the value of the costs of a particular alternative are compared directly in monetary terms. A major advantage of attempting to compare both benefits and costs in monetary value is that a common metric (e.g., dollars) is available by which the relative attractiveness of alternatives can be assessed. This permits the direct

comparison of alternatives even when common outcome measures are not available. Cost-benefit analysis evaluates the worth of an alternative by comparing the money-valued amount of "good" program effects (benefits) with the money-valued "bad" effects (costs). Cost-benefit ratios are calculated by dividing the monetary value of the expended resources by the monetary value of the derived benefits. Using this methodology, no alternative would be selected when costs exceed benefits, and in general, the alternatives chosen would be those that yielded that smaller cost to benefit ratios. The cost-benefit approach is preferred when decision-makers on methods for valuing program effects monetarily.

One difficulty in many areas of social program evaluation, however, is that decision makers disagree both on the methods to be used for the monetary valuation of outcomes and on the monetary values obtained. An important requirement for most cost-benefit analyses of alternatives is that the outcomes can be valued by their market prices. However, the outcomes of most social programs have no market counterparts. For example, what is the market value of benefits associated with an increase in reading level, or toileting skills, or communication skills? In such situations, evaluation methods that do not require monetary valuation of program outcomes become more attractive. Cost-effectiveness analysis avoids the difficult problems of valuation of outcomes by relating the monetary measures of resource cost to the effectiveness of a program in producing a particular impact. When program effectiveness in achieving a particular objective is associated to costs, the approach is considered to be a cost-effectiveness rather than a cost-

benefit analysis. Cost-effectiveness ratios are calculated by dividing the monetary value of the expended resources by a unit of effect or outcome. For example, $680/Reading Grade-Level increase. In cost-effectiveness analysis, describing the exact value of achieving a particular objective in monetary terms is not critical--what is important is recongizing that the social objective is desirable and it is best achieved in a way that minimizes costs. Therefore, even when cost-benefit analyses cannot be accomplished because of difficulties in setting a value on the benefits of an alternative, the rankings of cost-effectiveness ratios represent a viable means for choosing among programs that have the same or similar objectives.

Many of the issues which are addressed in this cost-effectiveness paper are common to both cost-benefit and cost-effectiveness analyses.

Purpose

The purpose of this paper is to report findings of a critical survey of selected cost-effectiveness analyses in human services research. This survey critiques primary research based on several criteria considered essential to high quality cost-effectiveness research. These criteria address (a) whether two or more alternatives were compared, (b) whether appropriate outcome measures were used, (c) whether the program ingredients included in the cost analysis were comprehensive, (d) whether appropriate methods were employed in the valuation of ingredients, and (e) whether cost-effectiveness ratios were appropriately constructed.

Methodology

Cost-effectiveness studies were included from three human service program areas: (a) handicapped early intervention program, (b) mental health programs, and (c) special education programs. The following computerized data bases were searched in locating studies in the three areas: (a) ERIC, (b) Exceptional Children, (c) Dissertation Abstracts, and (d) Psychological Information. The following key descriptors were used to identify potential articles for this paper: (a) "cost-effectiveness," (b) "cost-benefit analysis," (c) "cost analysis," and (d) "program costs." All studies included in this survey contained a "cost term"either in the title, the abstract, or in the descriptor list.

Critical Criteria Considered

As previously mentioned, several critical criteria were applied to assess each of the reviewed studies. Each of the studies were critiqued to determine whether the following desirable elements were included as part of their design:

1. Alternatives compared. Did the studies compare alternatives in determining cost-effectiveness? The purpose of cost-effectiveness analysis in human service research is to identify the alternative which accomplishes the desired social objective for the least sacrificed cost. In order to conduct a true cost-effectiveness analysis, the question must be posed: "Is alternative 'A' more cost-effective that alternative'B'?" An alternative or program cannot be satisfactorily compared to doing nothing. Comparing a social alternative with doing

nothing distorts the cost-effectiveness ratios and is similar to asking, "Which is better: any social program which is implemented to assist and improve the lives of individuals or doing nothing?"

2. Outcome measures. Are appropriate outcome measures used to assess program effects? The purpose of this paper is not to address the standard methodological concerns regarding appropriate selection and application of outcome measures (e.g., reliability, validity, testing bias, psychometric properties, etc.). Rather, the comprehensiveness of the outcome measures are considered. Most cost-effectiveness analyses are based on only a single or narrow range of outcome measure (such as IQ scores) rather than taking into account the diverse and long-term impacts that the program may have had. Also, cost-effectiveness analyses should include the measurement of disbenefits as well as benefits.

3. Resources considered. Are all resources which are necessary to implement an alternative considered in the analysis? A critical feature of conducting a quality cost-effectiveness analysis is to consider not only budgeted items but to consider those resources which are "hidden" or not obvious from the operating budget. The position is taken that these "hidden" items represent real costs to the program and typically include such ingredients as volunteer time, donated facilities, and donated equipment and materials. These hidden resources are often essential to the implementation and operation of the program and often represent a significant portion of the actual resources expended.

4. Valuing nonbudgeted resources. How are nonbudgeted costs valued? An interesting and often controversial area of cost-effective-

ness analysis has to do with the valuing of those ingredients or resources for which no market value presently exists. For example, some investigators might assign a cost value to parents' volunteer time as the minimum wage; others might argue that parents' time is worth that which the parent would ordinarily earn during his or her regular job. Still, others would indicate that the value of parent time is equivalent to the cost of a program intervenor. At any rate, it is important for the researcher to consider and report various possibilities for valuing items such as volunteer time and other ingredients for which no clear market value exists.

5. Costs and outcomes analyzed jointly. Are cost and outcome data integrated? A highly attractive feature of cost-effectiveness analysis is the ability to relate costs directly with units of effect. The result of this joint analysis is a cost-effectiveness ratio. Several studies have included a cost analysis and an effects analysis. However, the data were not presented in a way which allowed the determination of a cost per unit of effect (i.e., a cost-effectiveness ratio).

Results

A search of four computerized data bases yielded a total of 214 articles. The articles were categorized as follows:

1. Articles which are erroneously labeled. These articles contained a cost-effectiveness term in their title, abstract, or descriptor list, but did not deal with cost-effectiveness issues. A total of 113 articles or 52% of the 214 articles were categorized as "erroneously labeled." As can be seen in Table 1, the remaining 101 articles were sorted into the following categories.

Table 1

Types of Cost-Effectiveness Articles

	Mental health	Special education	Early intervention	Other	Totals (%)
"Low cost" articles	6	6	2	5	19 (19%)
"Should be" articles	21	21	4	6	52 (51%)
Cost comparison articles	1	4	2	1	8 (8%)
Cost-effectiveness articles	4	12	6	-	22 (22%)
Totals	32	43	14	12	N = 101 (100%)

2. "Low cost" articles. These are articles which purported to examine low cost or cost saving methods of achieving a certain social objective. These articles did not compare alternatives nor were any cost data included. A total of 19 articles fell into this category, representing approximately 19% of the remaining 101 articles. Of these 19 articles, 6 fell into the category of mental health, 6 fell into the category of special education, 2 fell into the category of early intervention, and 5 were categorized under the label of "other" which indicated that the articles did not neatly fall into one of the three human service program areas.

3. "Should be" articles. These articles consisted of nonexperimental discussion and review papers which typically urged researchers to carry out cost-effectiveness studies. These articles did not contain cost data. A total of 52 articles or 51% of the 101 articles fell into this category: 21 in the mental health area, 21 in the special education area, 4 in the early intervention area, and 6 as "other".

4. "Cost comparison" articles. These articles did not report cost data; however, the effects data were not directly related to these costs. Cost-effectiveness ratios were not constructed. A total of 8 articles fell into this category: 1 in the mental health area, 4 in the special education area, 2 in the early intervention area, and 1 in the "other" category.

5. "Cost-effectiveness" articles. These were articles in which both cost and effects data were presented. A total of 22 articles or 22% of the 101 articles fell into this category (this represented approximately 10% of the total number of articles surveyed which

purportedly contained cost-effectiveness data). A total of 4 of these articles fell into the mental health area, 12 fell into the special education area, and 6 under early intervention.

From these data, it appears that the term "cost effectiveness" (or similar cost terms) is used frequently in human service literature. However, only a small portion of these works actually present cost-effectiveness data per se. Furthermore, those works which do not purport to contain cost-effectiveness analyses often misuse the term "cost-effectiveness" in an effort to convey the notion of low cost.

The aforementioned criteria which are considered essential to a high quality cost-effectiveness analysis were applied to the 22 studies which were categorized as "cost-effectiveness" articles. As can be seen in Table 2, a relatively low percentage of the studies adequately met all the critical criteria. The most frequent shortcoming was the failure to include all costs (resources) associated with program implementation. Only 27.3% of the articles reviewed considered nonbudgeted resources as a component of their analysis. The second most frequent abuse of the suggested cost-effectiveness criteria was the failure to value items which did not have market values. This is not surprising considering that most items which do not have market values fell into the category of nonbudgeted resources. Only 40.9% of the articles contained at least some valuing of program ingredients which did not have readily available market values. Fifty percent of the articles reviewed contained outcome measures which were comprehensive and considered appropriate for the goals of the programs.

Table 2

Per Cent Articles Conforming to CE Criteria

Intervention area	Two or more alternatives	Appropriate outcome	All resources considered	Items without market values valued	Costs and effects analyzed simultaneously
ental health	9.1%	9.1%	0%	0%	18.2%
pecial education	36.4%	31.8%	18.2%	22.7%	31.8%
arly intervention	9.1%	18.2	9.1%	18.2%	13.2%
Total	54.5%	50.0%	27.3%	40.9%	72.7%

The following points regarding a relatively well-conducted cost-effectiveness analysis of a residential program for behaviorally disturbed children (Yates, 1977) typify three of the most frequently occurring problems found in human service cost-effectiveness studies. Basically, the Yates study assessed the cost effectiveness of a behavior management program designed to increase socially desirable behavior and decrease undesirable behaviors.

1. Valuation methods unknown. Costs of different components of the program were calculated from both budgeted and nonbudgeted categories. However, the method for valuing personnel facilities and equipment was not specified. In order to make intelligent decisions using CE ratios, it is crucial that the valuation method(s) be known. Selecting an evaluation method over another may drastically alter the resultant CE ratios.

2. CE ratios were developed without inclusion of nonbudgeted costs. Considering that personnel costs are by far the most costly program ingredient and that nonbudgeted personnel costs represented about twice the cost of budgeted personnel costs, it is unfortunate that the cost-effectiveness ratios did not include nonbudget figures. Better yet, CE ratios might have been calculated both ways, thus providing valuable information to decision-makers who can assess how different sources of resources affect program viability.

3. Alternatives not compared. The study did not actually compare two or more program alternatives in developing CE ratios. Rather, ratios were generated by comparing the effects measure (i.e., behavior frequencies) with the comparative behavior frequencies of normal

children. (Z scores were calculated so that a positive Z score meant the child was "better" than normal. A negative Z score meant the child was "worse" than normal.) Comparing the behavior frequencies of handicapped with nonhandicapped children lends additional perspective to the impact of the study. It better addresses the important question, "Is the program facilitating normalization?" However, this type of comparison does not serve the same function as does comparing two alternative methods for achieving a particular set of outcomes. We are still left with no answer to the critical cost-effectiveness question: "Is the program cost effective compared to an alternative?"

Several strengths of the Yates (1977) study are also noted.

1. Disaggregation by ingredient and by child. The data are disaggregated by the various program ingredients (personnel, facility, equipment, materials, etc.). Also, costs are disaggregated by child. This type of disaggregation allows the researcher or decision maker to identify the specific costs for a particular program component or for a particular child. This type of information can be particularly useful to human service program managers as they assess which program subcomponents maximize effects for which child (or subpopulation of child).

2. Optimal attendance considered. Fluctuations in costs and effects per child are shown as a function of time. The authors point out that variations in attendance probably account for the changing per child costs. This type of information may give managers an indication of whether the program can reduce per child costs without adversely affecting positive program effects.

3. Disadvantages considered. The study assessed the degree to which undesirable behaviors changed as a function of program impact. This strategy is sound regardless of whether behaviors increase or decrease. In this study, undesirable behaviors increased and the authors showed how this information was used to adjust future programmatic procedures.

4. Outcomes were appropriate and longitudinal. The study included the measurement of both fine and gross indicators of program impact. Frequency counts of individual behaviors were kept via an observation system, and gross indicators of program impact consisted of an assessment of recidivism. Recidivism measures were available for up to three years after program termination.

Summary

The evaluation of human service programs has too long focused only on their main effects without considering the costs associated with attaining such effects. In times of economic austerity, especially, researchers who do not consider cost factors in the evaluation of social programs are remiss regarding their most important function: to provide information which is useful in identifying and choosing the best alternatives to accomplish social objectives. To date, only a very small percentage of the research efforts in social programs have attempted to consider the cost component. Related to the implementation of any social alternative is not only an effect or impact, but also a cost or expense associated with accomplishing such an impact. Traditionally, program evaluation efforts have compared the relative

effectiveness of alternative methods designed to accomplish the same social objective (e.g., better educated children, reduced rates of crime, more effective interventions for the mentally ill and developmentally disabled, etc) only with respect to their results. The costs or resources expended to accomplish these results have been largely ignored. To accurately assess the impact of any social alternative, the true "worth" of the alternative must be measured not only in terms of its results, but in terms of how much it costs to accomplish those results.

Since no social programs can draw upon unlimited resources to accomplish their objectives, it is clear that the preferred alternatives are those which obtain their desired results at the least cost. The lower the cost of achieving a particular outcome, the greater the impact of the avilable resources.

The purpose of cost-effectiveness analysis in human service research is to identify the alternative which accomplishes the desired social objective for the least sacrifice or cost. Unfortunately, very few human service research studies have incorporated a cost-effectiveness analysis. Those few CE studies that have been conducted have invariably been lacking in one or more criteria seen as essential to the conduct of a comprehensive and high quality cost-effectiveness study.

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Cost-Effectiveness in Social Program Evaluation

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To determine the value of social programs, a simultaneous evaluation of the costs and the effects is necessary. An incomplete picture is formed if programs are compared on only one dimension (cost or effectiveness alone) and the other is ignored. Decisions based on an analysis of only costs or only outcomes can lead to ineffective projects. For example, it would be foolish to adopt the cheapest treatment regardless of its effects. Likewise, the most effective program may not produce the highest per-dollar return.

This workshop will present a conceptual framework and the major steps necessary to obtain the successful union of effectiveness analysis and cost analysis to determine the relative cost effectiveness of program alternatives.

There are two requirements for a good cost-effectiveness analysis. First, decision alternatives must exist. Cost effectiveness is a tool of comparative analysis; without feasible alternatives to compare, it makes little sense to conduct a cost-effectiveness evaluation.

Second, a cost analysis must accompany the evaluation of the effectiveness (or impact) of each alternative. Usually, educational research and evaluations compare the effectiveness of programs and ignore the availability, cost, and use of resources. However, because restrictions on program selection and implementation (duration and intensity) are often a direct function of available funds, program costs

should be an element in any analysis of impact.

In cost-effectiveness analysis, all expenses (costs) associated with the program are examined. "Costs" are defined as the value of a resource that would be available for alternative use if not used for the program. Unfortunately, most analyses which have used the term "cost benefit" or "cost effectiveness" have simply computed per child cost (total budget ÷ number of children served). Because the financial statements required by most Federal and state funding sources do not include all the "costs" incurred in program implementation, extensive data collection is frequently necessary to ferret out all the resources expended. Therefore, cost-effectiveness analysis involves much more than implementing "cost saving measures". Instead, an exhaustive examination is conducted of all elements (and their relationships) of programs being compared. Furthermore, underlying all quality cost-effectiveness analysis is a rigorous research design and detailed cost documentation.

This workshop is designed for administrators and evaluators of social service programs who want an introduction to the economic model of cost-effectiveness (CE) analysis. Emphasis will be placed on applying methodologies of cost analysis to programs in education. During the workshop, participants will conduct a simulated CE analysis to develop a list of expended resources, price resources with no market value, compute cost-effectiveness ratios, and make program decisions. Discussions will include the techniques needed to select appropriate program alternatives for comparison, to collect appropriate cost and effect data, to simultaneously analyze both costs and effects of programs,

and to interpret the results for decision making.

This manual contains two types of materials: (1) information on cost-effectiveness analysis (including relevant overheads used during the presentation, and (2) worksheets for conducting the simulated cost-effectiveness analysis. Topics to be covered in the workshop are listed below.

Workshop Objectives

Paricipants will be able to:

1. Define cost-effectiveness analysis.
2. State the criteria of a rigorous cost-effectiveness analysis.
3. Distinguish between the four modes of cost-effectiveness analysis.
4. List the steps in cost-effectiveness analysis.
5. Identify the cost ingredients of a program.
6. Given cost and effectiveness data, compute CE ratios.
7. Make decisions using CE ratios.
8. State the advantages and disadvantages of conducting cost effectiveness analyses.

Preschool Transition Model

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Proposal Summary

The special service agencies on the Black Feet Reservation identifying, evaluating and serving special needs children ages birth-through-five are proposing to develop and implement a process of coordinating all referring and receiving agencies. Major emphasis will be on ensuring that identified and at-risk chil n do not "fall through the cracks" when progressing from one agency to another. That is, to ensure a smooth, efficient transfer of each child and his/her individual records, teaching strategies and other recommendations. An individual with special education training and early childhood experience will be hired to develop and coordinate this effort. This individual will also work with concerned agencies and families as a consultant to those who work directly with diagnosed handicapped and non-diagnosed at-risk children. Involvement will include referral decision making, evaluation scheduling, education plan development for school and/or home, and arranging materials and transportation as needed for individual children. A part-day classroom experience with parent participation will be developed and implemented for severely to profoundly handicapped children of kindergarten age. This classroom will be in addition to and coordinated with each child's mainstreamed kindergarten and all other support service experience.

Statement of Need

The proposed project will develop a transition educational service program for young handicapped and "at-risk" children who reside in rural/remote regions of Northwestern Montana. The monies requested will permit development of this project which will be implemented annually therafter by local educational agencies. Due to the large, rural geographic area served, cooperation among LEA's and other special service agencies is needed to ensure full and appropriate services to young handicapped children, and to assist in the smooth continuity of services as children progress from one educational agency to another.

The Blackfeet Tribe Head Start Program serves approximately 90% of the 3-5 year old population residing in this area. It is the primary agency responsible for early childhood identification, evaluation and service provision for young handicapped children aged birth through five in a cooperative agreement with the three local educational agencies (School District #9, #1, #50). During the 1981-1982 school year, approximately 20% of the kindergarten population participated the previous year in the Blackfeet Head Start program and received annual developmental screening performed by Head Start staff. Of these children, approximately 5% were directly referred to the receiving local educational agency with cooperative efforts in assessment and individual educational program development occurring. Because of the part-time kindergarten program currently operating in the local districts, children with severe or profound handicapping conditions have a more limited opportunity for provision of needed direct special services or educational training as well as adequate participation in the mainstreamed

classroom. Utilizing an all day kindergarten placement or dual Head-Start-Kindergarten placement have been attempted in the past with varying degrees of success. Lack of personnel time to coordinate communication regarding progress or teaching strategies, and/or administrative regulations are a few of the known difficulties impeding the quality of these placements. The transition classroom targeted in this proposal will ensure fuller possibilities for answering these needs for the young severely handicapped children.

Of the 1981-1982 kindergarten population, an additional 16% were identified by the Head Start Special Services Component as being in need of specific developmental rescreening, monitoring of developmental status, or implementation of suggested teaching approaches, upon entering their kindergarten year. Efforts to assist in follow through have been hampered by high teacher turn over rates, shortage of available personnel, as well as a system for transferring information efficiently.

The following information provides a summary as well as a commentary on the need to increase the transition of developmental records of children more efficiently. These efforts will be aimed at increasing preventative educational services by developing a format to improve abilities to promote individualized teaching strategies. This in turn can reduce potential learning failures through creating a quality early childhood educational approach for all children, specifically identified children with special needs or at-risk children ages birth through five with carry over effects through age eight, the early primary developing years.

In Browning School District #9, approximately 14% of the total first grade population were referred for Special Service evaluations. Of these children, 32% had been recommended for specific developmental screening and/or monitoring of specific developmental areas with recommended classroom adaptations by the initial or referring educational agency prior to their entering the kindergarten year. An additional 18% of the referred first graders had received developmental screening, provision of consultative services to regular classroom teachers, and monitoring (such as periodic developmental rescreens or observations), during their Head Start preschool years. This careful look by the cooperating educational service agencies suggest that 50% of the referred first grade children could have potentially benefitted by earlier referrals, or evaluations resulting in direct special services or classroom and home consultation and adaptations regarding the child's learning or developmental strengths and areas of need during or prior to their kindergarten year.

Thus, the needs to be addressed in this proposal are: 1. the need to develop and implement a plan for coordinating the interagency transition for special needs and at-risk children ages birth-through-five. 2. The need for an individual to consult with all agencies and families providing special services to children ages birth-through-five by participating in evaluation-interpretation, intervention strategy development and staff and family training. 3. The need for a part-day Preprimary Developmental Transition Classroom for severely to profoundly handicapped children of kindergarten age in addition to kindergarten mainstreaming and other required support services.

Objectives

In accord with the stated needs, the objectives to be accomplished through this proposal are:

1.1 At the conclusion of the 1982-83 school year, a Transition Plan will be developed and implemented to ensure that all special service referring and receiving agencies are fully informed of the history, needs, services provided, progress and recommendations of individual children.

1.2 The implemented plan will ensure during the fall, 1983, and annually thereafter, that needed evaluations and services are provided in a timely manner.

2.1 By September 1982, a certified special educator will be on staff to coordinate the development of the Transition Plan. The position title shall be Early Childhood Coordinator/Itinerant Special Education Teacher.

2.2 By May 1983, 90% of teaching and supportive staff will have received training in the identification and referral of children with actual, potential or suspected educational handicaps.

2.3 By May 1983, and annually thereafter, the Transition Coordinator will have provided and/or ensured needed training and materials to all teachers to increase their abilities to individualize for their special needs children.

2.4 By May 1983, 60% of parents of special needs children will have received training and support to increase their abilities to assume an advocacy role for their child in the Child Study Team process.

3.1 By November 1982, a Preprimary Developmental Transition Classroom will be implemented for severely to profoundly handicapped children of kindergarten age.

Activities and Methodology

In accord with the stated objectives, the activities and methodology to be addressed through this proposal are:

1.1.1 The Transition Coordinator will develop and implement an interagency network for the transferring of individual child records and referrals.

1.1.2 The Transition Coordinator will ensure that referring, and other involved agencies, participate in individual child special education planning at least into the early elementary levels.

1.2.1 The Transition Coordinator will assist involved agencies in coordinating the scheduling and, when needed, the payment for diagnostic evaluations for children progressing from one agency to another and for newly identified children as needed in each agency.

1.2.2 The Transition Coordinator will have the primary responsibility for receiving, reviewing and implementing action on referrals for children who are age eligible for kindergarten.

2.1.1 By June 1982, a comprehensive recruitment effort will have been initiated to seek an individual with early childhood special education experience.

2.2.1 The Transition Coordinator will plan and implement a training program to increase teachers' and other staffs' abilities to identify children with actual, potential or suspected educational handicaps.

2.2.2 The Transition Coordinator will meet with teaching and other staff to review children identified and to coordinate appropriate referrals as needed.

2.3.1 The Transition Coordinator will be responsible for establishing a consistent schedule for meeting with personnel and parents working with special needs children ages birth-through-five. Agencies will include, but not be limited to, Birth-to-Three Home-Based/Center-Based Program, Blackfeet Head Start, Browning Public Schools, Heart Butte Public Schools, East Glacier Public Schools, Indian Health Services, Project RURAL and the Montana University Affiliated Program. These meetings will be to identify and ensure provision of individual staff training to increase their abilities to plan for and to individualize for special needs children.

2.3.2 The Transition Coordinator will actively assist and encourage all agencies in parent education to increase parent advocacy skills especially as they relate to parent's understanding and assuming an active role in their child's education planning, placement and revisions thereof.

2.4.2 The Transition Coordinator will actively assist and encourage all agencies in providing individual and group parent education in early childhood development and disorders, parenting skills and other home stimulation techniques.

2.4.3 The Transition Coordinator will work with all appropriate agencies to combine and revise existing orientation pamphlets, slide shows and other materials for parent and public awareness regarding the availability and organization of local resources. Cultural

uniquenesses common to this community will be given specific attention in public awareness materials and presentations.

3.1.1 The Transition Coordinator will be responsible for the development and staffing of the PrePrimary Developmental Transition Classroom for Kindergarten age children with severe to profound disorders. This part-day class will be limited to approximately six children and will be in addition to and coordinated with each child's mainstreamed kindergarten class and all other needed home and school support services.

3.1.2 Parents of special needs children will be encouraged to actively participate in the Transition Classroom.

Evaluation

1.1 An updated evaluation form will be completed for all students (ages 0-8) referred by agencies on the Blackfeet Reservation including a summary of current level of performance, services provided, progress, and recommendations. This information will be disseminated in person by the Transition Coordinator to the parents, other referring and receiving agencies (administrators, coordinators, and service delivery personnel).

1.2 Questionnaires and survey forms will be distributed to parents, cooperating agencies and districts requesting responses to the following questions.

-Were referred children evaluated and served on a more timely basis?

-Were the evaluations conducted comprehensive?

-Did the Transition Staff assist in the carrying out of appropriate treatment programs (including audiology, speech, motor, and other consultant, contractual and direct services)?

-Did the Transition Program Staff communicate (verbally and in writing) with you on a regular basis regarding the referred children?

-Was the transition program supportive and sensitive to the needs of the referred students?

2.1 Three formal evaluations of the Transition Coordinator will be accomplished by June, 1983. A variety of observation and measurement techniques will be utilized.

2.2 For all training sessions, participants/trainers will complete the appropriate inservice evaluation form. By June 1983, a comprehensive evaluation of the impact of the training programs on the school and community will be conducted.

2.3 A record of all materials and equipment checked out to teachers and parents will be maintained. An evaluation and comment form will be completed by the borrowers when these supplies are returned. Responses to the following questions will be obtained:

-Were you adequately trained in the use of these materials?

-Did the materials assist you in treating the student with respect to the goals and objectives in his/her individualized educational program?

-Would you like to utilize these materials again with the student(s)?

2.4 An evaluation of parent participation in all CST meetings will be maintained. This evaluation will include the following data:

-Attendance of parents or family members at CST, including relationship to child.

-Minutes of the meetings, including all parent remarks will be attached to CST report.

3.1 An evaluation of the growth achieved by the children in the Pre-primary Developmental Transition Classroom will be accomplished by June 1983. Methods, for this evaluation will include screening instruments, diagnostic tests, criterion-referenced checklists and other systematic observation methods.

Continuation

The local education agencies and Blackfeet Head Start have committed instructors' and administrators' salaries and fringe benefits, classrooms, materials, and equipment and will continue to do so during the 1983-84 school year through their special education and general operating budgets. No further grant funds are considered necessary to maintain the transition services to young handicapped children described in this proposal.

SPECIAL PROJECTS

Early Intervention Research Institute

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Utah State University's Exceptional Child Center (ECC) is currently conducting a five-year, 1.8 million dollar research program: the Early Intervention Research Institute (EIRI). The EIRI is one of the three Early Childhood Research Institute contracts in the nation awarded by the Office of Special Education and Rehabilitation Services of the U.S. Department of Education beginning in October, 1982. Each Institute focuses on one broad area of research relevant to the early intervention with handicapped children (infants through 5 years). The EIRI is focusing its research on the efficacy and cost effectiveness of early intervention.

BACKGROUND

During the last 20 years, millions of dollars have been spent on the development, implementation, and evaluation of early intervention program. A major contributor to the amount of resources devoted to early intervention programs for the handicapped has been the Handicapped Children's Early Education Program (HCEEP). Originally funded by Congress in 1968, HCEEP began with 24 demonstration projects in 1969. Since that time, literally hundreds of demonstration projects have been developed and many of these projects have been widely replicated. In the past 12 years, HCEEP demonstration projects have served nearly all categories of handicapping conditions. The ages of the children served have ranged from birth to 8 years with over 50% being under 3 years and nearly 90% being 5 years and under.

Resources for early intervention have not been limited to the federal government. According to the Department of Education, for each child who received early intervention services from federally funded demonstration projects, four children were being served by other agencies through a combination of service programs and replication models.

PROBLEMS TO ADDRESS

While the concept of early intervention has been widely endorsed by individual practitioners, states, and federal funding agencies, the research evidence on the effectiveness of early intervention is often paradoxical, confusing, or incomplete. The most frequent problems with existing research result from inadequate measurement of the "effects" of early intervention, difficulties in summarizing apparently discrepant results from various studies, and lack of consideration of long-term effects from early intervention. Unfortunately, most of the existing research on the efficacy and cost effectiveness of early intervention has failed to deal adequately with these problems. Also, to determine worth, one must simultaneously consider both benefits or effects of the program and the costs of the program. Most efforts to analyze the cost effectiveness of early intervention have either been superficial or have failed to simultaneously consider costs and effects.

MISSION AND RESEARCH THRUST

The mission of this Institute is to expand the knowledge base with regard to the efficacy and cost effectiveness of early intervention for handicapped children. During the first year of the Institute (1982-83),

this mission is being addressed by three interrelated research thrusts and a number of other activities involving training, dissemination of information, and evaluation of the Institute's impact. The unique nature of the three research projects will answer important questions concerning early intervention as well as providing the foundation for planning and directing the efforts of Years #2-5.

Meta-analysis: integrating completed research. A major thrust of the first year has been the utilization of recently developed meta-analysis techniques for integrating the hundreds of completed research reports concerning early intervention with handicapped populations. More than 1500 articles discussing the effects of early intervention have been collected for analysis. Those which describe actual research projects (estimated to be about 250) are being systematically coded and analyzed to determine the effects of early intervention and the variable which covary with and contribute to effective early intervention. From this systematic and comprehensive integration of existing research, the Institute will determine what conclusions can be drawn from existing research, what gaps exist, and how conclusions about effectiveness are different among various subgroups of children or families (e.g., severity of handicapping condition, type of handicap, level of SES).

Comprehensive cost-effectiveness analysis. State-of-the-art techniques have been developed for analyzing the cost effectiveness (CE) of early intervention programs for handicapped children. Currently, the CE data from two populations are being compared:

(1) children who had home-based intervention prior to preschool enrollment, and (2) children who did not have intervention prior to preschool. A major outcome of this first year study will be an in-depth analysis of the relative effects and associated costs of providing intervention in both the home and center versus in only the center. To collect and analyze the cost data, the EIRI Cost Protocol has been developed. This manual specifies the steps to use in disaggregating resource expenditures across various program components. In subsequent years, the EIRI Cost Protocol will be applied in other field settings to questions and issues which are identified from meta-analysis.

Longitudinal effect of early intervention with hearing impaired children. A research thrust for Year #1 is collecting longitudinal outcome data for four groups of hearing impaired children (25 children per group). Group 1 received home-based intervention before 30 months of age (the intervention was delivered by Project SKI*HI, a nationally disseminated early intervention project for hearing impaired children based at Utah State University). Group 2 received home-based intervention (again from Project SKI*HI) after 30 months of age. Group 3 received center-based early intervention, and Group 4 received no early intervention. Children in each of the groups have been matched on age (now 9-11 years old), severity of hearing loss, presence of other handicaps, and type of educational setting after age 5. Data from a wide variety of outcome measures are being used to determine the effects of various early intervention alternatives.

Dissemination. In addition to the research thrust, the Institute is disseminating information to a broad national audience of parents,

professionals, and policy makers concerned with early intervention. The EIRI is also training graduate students, collaborating with other Institutes, and working with a broad range of practitioners and researchers in the field. Several workshops are being conducted which describe the Institute and its research findings and train others in the techniques of meta-analysis and cost-effectiveness analysis.

THE EIRI STAFF

The principal staff include Co-Directors, Glendon Casto (Associate Director of the ECC) and Karl White (Director of the Planning and Evaluation Program, ECC) and Co-Principal Investigators, Cie Taylor (Research Associate, ECC) and David Shearer (Program Administrator, ECC). The Advisory Committee for the EIRI includes Tal Black (University of North Carolina), Peter Fanning (Stace Office of Special Education Services, Denver), Gene V. Glass (University of Colorado), Sharon Hixon (Northern Kansas Educational Services Center), Merle Karnes (University of Illinois), Henry Levin (Stanford University), Jessica Strout (Utah ARC, Salt Lake City), Craig Ramey (University of North Carolina), Jackie Walker (Yakima Indian Nation, Division of Education), Rune Simeonsson (University of North Carolina), and Phillip Strain (University of Pittsburgh).

For additional information regarding the Institute, please forward inquiries to Early Intervention Research Institute, Exceptional Child Center, UMC 68, Logan, Utah 84322, or telephone (801) 750-2029.

Project Upstart

Model Demonstration Continuation Project

D. Lee Walshe, Ph.D.

as presented by

Larry Szuch

Joan Frain

Kay Kincaid

D.C. Society for Crippled Children

Southeast Center

3640 Martin Luther Xing, Jr., Avenue, S.E.

Washington, D.C. 20032

FACT SHEET

GENERAL DESCRIPTION OF SERVICES

Project UPSTART provides an adapted Neuro-Sensorimotor Program for infants and preschoolers who are profoundly through moderately mentally and/or physically handicapped. This program provides:

1. Diagnostic Educational Prescriptive Program
2. Therapeutic Activities with an Adapted NDT/SI Approach
3. Professional and Para-professional Training
4. Volunteer Training
5. Orthopedic, Neurological, Pediatric Clinics
6. Social Work Services

MODEL DEMONSTRATION CLASSROOM

LOCATION

D.C. Society for Crippled Children
Southeast Center
3640 Martin Luther King, Jr., Avenue, S.E.
Washington, D.C. 20032

CONTACT PERSONS

D. Lee Walshe, Ph.D., OTR, Director of Program Services (301) 262-5550

Joan Frain, . Outreach Project Coordinator (202) 563-0410

Norma Evans, Southeast Center Coordinator (202) 562-7112

HOURS

Office: 8:00 a.m. - 4:00 p.m. Monday through Friday

School: 8:45 a.m. - 11:45 a.m. Monday through Friday
Half Day Sessions

8:45 a.m. - 11:45 a.m. Monday through Friday
Half Day Sessions

12:30 p.m. - 3:30 p.m. Home Intervention Program

12:30 p.m. - 3:30 p.m. Out-Patient Therapy Program

POPULATION SERVED

Severely handicapped children are identified by showing a developmental delay of 50% or more in two or more curriculum areas on the Denver or Early LAP, or 50% delay in one curriculum area, and one severe behavior problem. Profoundly handicapped children are identified by showing developmental delays of 75% in two or more curriculum areas on the Denver or Early LAP.

Mildly/moderately handicapped children are identified by showing 25% of developmental delays in one or more areas on the Denver or Early LAP.

This program was developed under funding from Special Education Programs, U.S. Department of Education. The D.C. Society for Crippled Children now supports this model demonstration program on-site.

AREA SERVED

District of Columbia, metropolitan area.

ADMISSIONS PROCEDURE

Call the Southeast Center Coordinator at (202) 562-7112. Agency, medical, parent referral accepted. Appointments will be set for initial screening.

SPECIFIC DESCRIPTION OF SERVICES

Project UPSTART provides diagnostic educational prescriptive activities integrated with adapted neurodevelopmental and sensory integrative therapies. The rationale for the integration of education and therapy in meeting the needs of severely/profoundly handicapped

very young children rests upon the awareness of the need for improvement of neuro-sensorimotor function as a basis for progress in the child's educational program. A plan for sequencing activities has been developed and is individualized for each child. The classroom serves severely/profoundly, mild/moderately handicapped. There are 10 children per session in the classroom with programming for a half-day; with one session being twice weekly and the other session being three times weekly. Staff consists of: teacher, occupational therapist, physical therapist, speech pathologist, and teacher assistant utilizing the inter-disciplinary team approach. Program components address all curriculum areas. A behavior program is developed, if behavioral assessment indicates that it is necessary. A toilet training program is developed with parents, utilizing techniques of behavior modification. A therapeutic feeding program is provided for children with oral neuro-muscular dysfunction. Cognitive/language programs are developed for each child, and children are grouped appropriately for program activities. The gross and fine motor program is totally integrated into the classroom structure and consists of individual handling, positioning, pre-ambulation, control of the sensory environment through therapeutic intervention, ambulation, perceptual-motor activities.

SUPPORT SERVICES TO THE FAMILY

Parent training programs are provided in areas of: feeding, toileting, positioning and handling, personal care, hygiene, adapted equipment. Counseling in behavior management is offered. All parent training is directed toward enhancing parent skills in reinforcing their child's development in all curriculum areas. Social work

services consist of: parent interview, support in crisis, planning for and provision of respite care, assistance in referrals to outside agencies and future placement in another agency. Teachers and therapists visit the home and provide counseling and training. Recreation and social opportunities are provided for parents.

DEMONSTRATION SERVICES AND OUTREACH

An opportunity for members of the community to visit the model program on-site is provided. Workshops are offered to professional groups. Presentations are made off-site to interested parents, professionals, and para-professional groups. Slides and video tape presentations have been developed. Care-takers, such as baby sitters, are offered assistance in acquiring skills. Semester-long training programs are offered to universities for clinical training, pre-clinical experience and practicums. High school volunteers learn parenting skills. Consortiums and associations have been established which coordinate services and develop quality programs.

PARENT AGENCY DESCRIPTION

D.C. Society for Crippled Children is an Easter Seal Agency, private, non-profit serving multi-handicapped infants, preschoolers, and adults, with provision of an education and therapy program and counseling for parents. Services are offered in Washington, D.C., Southern Maryland, and Prince George's County, Maryland. Diagnostic evaluations are made throughout the early intervention program by interdisciplinary teams. Pediatric screenings are provided by a consultant physician to children enrolled in the preschool. Orthopedic and neurology clinics are held for handicapped children and adults. Individualized educational plans are written for each child. Instructional objectives for therapists and teachers are stated in measureable

terms. Services offered to handicapped children, their parents, and the community are as follows: educational programs, occupational therapy, physical therapy, psychological evaluation, language therapy, social case work, counseling, diagnostic evaluation, pediatric examinations, medical clinics, staff consultants to community agencies, training of student educators and student therapists, and opportunity for on-site visits from professional and community sources.

PRESENT OUTREACH SERVICE EXTENSION

Handicapped Children's Early Education Program under Special Education Programs, by granting outreach funding, has facilitated developing outreach services offered by the D.C. Society. The adapted Sequence Neuro-Sensorimotor Program (SNSP) is being replicated by the Infant Education Program in St. Mary's County, Maryland, the F.B. Gwynn Center in Charles County, Maryland, the United Cerebral Palsy Center of Bowie in Prince George's County, Maryland, and Sharpe Health in Washington, D.C. Project UPSTART staff will also instruct graduate students at the University of the District of Columbia on the inter-disciplinary team approach to intervention. Project UPSTART anticipates assisting other communities through consultation, training, workshop and conference presentations.

PAST OUTREACH SERVICE EXTENSION

Past outreach services has included training and consultation to St. Mary's, Calvert and Charles Counties in Southern Maryland, and Washington, D.C. The outreach staff has presented at national conferences and has disseminated information regarding intervention for handicapped infants and preschoolers in response to national and inter-national inquiry.

Project Upstart

Oureach Services

D. Lee Walshe, Ph.D.

as presented by

Larry Szuch

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D. C. Society for Crippled Children

Southeast Center

3640 Martin Luther King, Jr., Avenue, S.E.

Washington, D.C. 20032

FACT SHEET

1982-83

GENERAL DESCRIPTION OF SERVICES

Project UPSTART's outreach services are directed toward stimulating increased high quality services for handicapped infants, preschoolers, and their families, while developing an effective outreach model. This outreach phase follows three years of model demonstration. For three years, a program was developed; the Sequenced Neuro-Sensorimotor Program (SNSP). With the assistance of outreach, four sites are replicating the program. In addition, outreach activities this year will include: product development, training, consultation, workshop and conference presentations, and stimulating state involvement.

PROCEDURE FOR SECURING OUTREACH SERVICES

Contact: Project Director D. Lee Walshe, Ph.D, OTR (301) 262-3776

Project Coordinator: Joan Frain (202) 563-0410

MODEL DEMONSTRATION LOCATION

D.C. Society for Crippled Children
Southeast Center
3640 Martin Luther King, Jr., Avenue, S.E.
Washington D.C. 20032
Contact: Ms. Norma Evans (202) 562-7112

OFFICE HOURS

8:00 a.m. - 4:00 p.m. Monday through Friday

REPLICATION SITE LOCATIONS

United Cerebral Palsy Association
of Prince George's County, Inc.
Bowie, Maryland
Contact: Ms. Paulette E. Paolozzi
(301) 262-4993

Sharpe Health School
Public Schools of the District of Columbia
Contact: Mrs. Marian C. Siler
(202) 576-6161

F.B. Gwynn Education Center
Charles County Public Schools
Contact: Mr. Raymond Bryant
(301) 934-3884

SECOND GENERATION SITE LOCATIONS

Infant Education Program
St. Mary's County Public Schools
Contact: Mr. Walter Frazier
(301) 862-2174

F.B. Gwynn Education Center
Charles County Public Schools
Contact: Mr. Raymond Bryant
(301) 934-3884

PERSONS SERVED

One hundred eighty-three handicapped infants, preschoolers, young adults, and their families have been impacted through outreach services. Approximately 75% are severely or profoundly handicapped. The less handicapped provide us the opportunity of field testing the developed program among a different population. The staff at the replication sites have been receiving training and hands-on follow-up consultation. Many other persons have read our materials and attended local, state or national conventions, where we have presented.

AREAS SERVED

Northwest and Southeast, Washington, D.C.

St. Mary's, Charles and Prince George's Counties in Maryland

FUNDING

Through the Office of Special Education, U.S. Department of Education

Grant No: G 008202872

In-kind support from D.C. Society for Crippled Children

SPECIFIC SERVICES

ASSISTING REPLICATING SITES

By providing workshops, pragmatic "hands-on" training, consultation, demonstration, instructional materials, information on equipment adaptation, information resources.

PRODUCT DEVELOPMENT

Outreach funding assists Project UPSTART to further develop its Sequenced Neuro-Sensorimotor Program and accompanying materials. Outreach also enables the staff to implement the program in rural, urban and suburban areas.

TRAINING

Training reaches many persons aside from those at the replication sites: special educators, occupational therapists, physical therapists, speech pathologists, para-professionals, administrators. These persons are reached through workshops, presentations, practicums and field work.

AWARENESS

These activities generate inquiries regarding the model program, the SNSP and materials that accompany it. They focus attention on the need for intervention for many young children and their families. Such awareness stimulates state involvement resulting in collaborative efforts in program development and avoid areas of duplication of services.

PARENT AGENCY DESCRIPTION

D.C. Society for Crippled Children is an Easter Seal Agency for Washington, D.C., Prince George's County and Southern Maryland. It is private, non-profit, serving multi-handicapped infants, young children and adults. In addition to services in Northwest and Southeast, Washington, D.C., D.C. Society is also developing programs in Prince George's County and the tri-counties in Southern Maryland. Services offered to handicapped children, their families, handicapped adults and their families and the community are as follows: physical therapy, occupational therapy, speech and language therapy, education programs, diagnostic evaluation, pediatric examination, orthopedic/pediatric/ neurologic clinics, staff consultation to community agencies, training of student educators and student therapists, equipment loan, information and referral, and the opportunity for on-site visits from professional and community sources.

The Macomb 0-3 Project:
Providing Services to Handicapped Infants and Their Families in Rural Areas

Sue Marshall
Training Coordinator
Macomb 0-3 Regional Project
Western Illinois University
27 Horrabin Hall
Macomb, Illinois 61455

The presenter of this session gave an overview of the components of the Macomb 0-3 Project Model, a rural, home-based early intervention program for handicapped, at-risk or developmentally delayed infants and toddlers and their families. Topics included in the presentation were:

1) Historical perspectives, project goals and JDRP data
2) Outreach services
3) Project operating principals and general assumptions
4) Project components: Home Visits, Sharing Center, W.A.D.E. (Water Activities for Developmental Enhancement), and Program Evaluation.

Historical Perspectives/Project Goals/Data

In 1975, the year in which PL 94-142 became the legal basis for providing educational services for handicapped children ages three to twenty-one, Drs. Patricia Hutinger and Dennis Edinger applied for and obtained funding through the Handicapped Children's Early Education Program (HCEEP) to develop a model early intervention program for those children who were excluded from services by that law, namely developmentally delayed, at-risk, and handicapped children ages birth to three.

The main goals of the project are to provide an educational/

remedial program that is effective in promoting child development, and to help parents develop skills that enable them to be more effective in dealing with their child. The model is designed to be implemented in a rural area.

The Macomb 0-3 Model was approved by the Joint Dissemination and Review Panel (JDRP) in 1980. Approval was granted after review of child progress data collected on The Developmental Profile (Alpern-Boll), and the Receptive and Expressive Emergent Language Scale (Bzoch-League) and subjective data. Data indicated that the project is effective in producing developmental change in the areas of Physical, Self-Help, and Communication as measured by the Alpern-Boll and in Receptive Language as measured by the REEL. Parent satisfaction data indicated that overall, parents were satisfied with services provided them through the program. Also, a majority of parents indicated they had gained knowledge of their child's problems, acquired greater skills in working with their child and learned new techniques to use when working with their child.

Outreach Services

In 1978 the Macomb 0-3 Regional Project became an Outreach project, directed by Patricia Hutinger, funded to provide training on the Macomb 0-3 Model to birth to three service providers. Training is offered to professionals who already have a 0-3 program and to those who are developing a new program. In the provision of Outreach services, project staff:

1) Conduct awareness activities through presentations and workshops;

2) Develop and disseminate projects such as printed materials and slide/tape productions;

3) Provide consultation on a wide variety of topics;

4) Conduct staff development activities; and

5) Train personnel to adopt individual model components or the model in its entirety.

Model components include: Home Visits, Sharing Centers, W.A.D.E. (Water Activities for Developmental Enhancement), and Program Evaluation. This training can be conducted at the Outreach site or at the adopting agency. Printed materials and staff are provided at no cost. Agencies are asked to make partial contribution for staff travel and lodging during training if it is not conducted in Macomb.

Operating Principals/Project Assumptions

The Macomb Model operates on several basic principals and assumptions:

1. Parents are the primary change agents for their children. They are involved in all aspects of the program, from providing input concerning the scheduling, planning, and implementing of all program components to serving on advisory councils and providing support to other project families.
2. Service delivery in rural areas is vastly different than in urban areas. Resources, support services, etc. are scarce, thus it is important that various professionals providing services to families work together, cooperate and coordinate services. Community awareness and involvement are necessary as well. Because of the sparcity of services and the fact that children in rural areas exhibit a wide range of handicapping conditions, the Child Development Specialist (CDS) must be

prepared to fill many roles from direct service provider to therapist, case manager, public relations person and counselor. In the Macomb Model, this is termed as an "undifferentiated staffing pattern".

3. A developmental curricular approach is effective in facilitating child progress. The philosophical foundations for the model also involve Piagetian theory. Because it is important for children to explore, manipulate, experiment with objects and interact with people, preparing the child's environment for learning is vital.

Project Components

Home Visits

When a referral is made to the project, the CDS screens the child in the home using the Steps-Up screening instrument. Those children showing little delay are served on a "monitor" basis, often by attending bi-monthly regularly scheduled home visits. The CDS helps the family obtain medical services for the child and directs them to diagnostic services such as neurological examinations. Home Visits are scheduled according to the needs of the child and family. They may take place weekly, bi-weekly, or bi-monthly. The child is assessed during the first weeks of Home Visits in a variety of ways. Two standardized tests, the Alpern-Boll and the REEL, are administered. Observational checklists are used to assess the child's behavior and environment. An intake form is completed including medical information and the child's characteristics. Parental concerns are assessed in-

formally. The CDS must know the parents' needs and desires for the child because the parents will carry the main responsibility for implementing the child's program. The CDS and family members work together as a team. Using the information generated during this assessment period, the CDS and parents together formulate bi-yearly goals for the child. Objectives and activities designed to promote growth and development are derived from the Macomb 0-3 Core Curriculum. The CDS develops activities to facilitate goals and models the activities for the caregiver during Home Visits. Then the caregiver is encouraged to demonstrate the activity with the child. Also, a specific objective is chosen at each visit and activities developed for the family to work on during the week. Parents are taught how and encouraged to chart child progress.

Sharing Centers

In addition to Home Visits, parents participate in Sharing Centers which meet monthly or bi-monthly in area churches, community buildings, or parents' homes. Sharing Centers, which evolved from the concept of a parent-cooperative nursery school, function as a transition between home and center-based programs in addition to providing a form of mainstreaming since "typical" children (siblings and invited participants) are involved. Sharing Center groups consist of six or seven families and maintain constant membership unless a family leaves the area. CDS's plan activities geared to the children's level that are designed to promote development and generalization of skills. Often parents are involved in planning and bringing activities as well as accompanying new parents, providing transportation, and conducting Centers in their homes.

W.A.D.E: Water Activities for Developmental Enhancement

Another type of Sharing Center is the W.A.D.E. program. Again, this is a least restrictive environment, as siblings and "typical" children are involved. All family members are encouraged to participate. Activities were orignially developed under the guidance of physical and occupational therapists and are designed to promote gross motor development although language, self-help, and social skills are facilitated as well. W.A.D.E. sessions are arranged to take place once or twice a month at a local pool located at a YMCA, park, motel, or family's home.

Program Evaluation

Training on the Program Evaluation component of the Macomb 0-3 Regional Project is designed to help professionals develop a successful program evaluation strategy. Outreach staff work with 0-3 program staff to design specific training schedule content. Instructional aids include forms to develop program evaluation strategies and a sequenced series of activities to help plan, collect data, analyze data, summarize data, then choose appropriate target audiences for demonstration of information regarding program effectiveness.

MACOMB 0-3 PROJECT

FIELD TESTING CORE CURRICULUM

1. Requests for Field Testing CORE Curriculum must be made in writing by requesting agency.

2. Requesting Agency must sign an agreement for the following:

   a. Complete an initial Survey Sheet about their agency including the following information:

      1. Agency name
      2. Address
      3. Phone number
      4. Contact person
      5. Number of part/full time staff
      6. Source of funding
      7. Brief description of program
      8. Description of children served (number, age, and handicapping condition)

   b. Agree to field test curriculum for a period of at least 10 months. (Parts of the curriculum may <u>not</u> be reproduced without our permission.)

   c. Agree to collect child pre-post test data, on instrument(s) to be agreed on between site and Outreach staff, and to share that information with the Outreach Project.

   d. Add relevant, worthwhile activities and adaptations to the curriculum that the agency develops during field testing.

   e. Agree to provide the Outreach Project with copies of the site's CORE Curriculum Child Record Sheets. In order to ensure child/family confidentiality, delete child's name and replace with an identification number.

   f. Agree to submit a written evaluation by January 1, 1984, examining the strengths and weaknesses of the curriculum, suggestions for improvement along with a description of how the curriculum was used (which columns were of use, used to write goals/activity plans, etc.) and other comments.

3. At the end of the ten-month period, the agency should request to renew its application for further Field Testing <u>OR</u> they should return the curriculum to our office. The curriculum will be given to agencies replicating our program without charge.

4. The Outreach Project agrees to the following:

   a. Agrees to provide sets of CORE Curriculum free of charge, one set per person involved in field testing.

   b. Agrees to provide consultation with the site on curricular matters by phone or on site depending on the availability of funds, during the field test

   c. Agrees to contact field test site, three months into field test and before field test is completed.

FIELD TESTING - CORE CURRICULUM

Site Information

Date _____

Agency _____

Address _____

Phone Number _____

Contact Person _____

Number of Staff: Part Time _____ Full Time _____

Source(s) of Funding _____

_____

Brief Description of Program _____

_____

_____

_____

Description of Children Served

#	Age Range	Handicapping Condition

AGREEMENT: FIELD TESTING CORE CURRICULUM

Outreach: Macomb 0-3 Regional Project

_____ agrees to field test the CORE Curriculum as developed by the Macomb 0-3 Regional Project. Field testing will involve _____ staff members, serving _____ children.

_____ agrees to:

1. Complete initial survey sheet.
2. Field test the CORE Curriculum for a period of ten months.
3. Each staff member using the CORE Curriculum will complete a CORE Curriculum Evaluation Sheet.
4. Reapply to field test the CORE Curriculum for an additional six month period or return the curriculum to the Outreach office.
5. No part of the CORE Curriculum may be duplicated.

_____ Date

_____ Field Testing Agency

_____ Outreach: Macomb 0-3

11/32

Return to:

Macomb 0-3 Project
27 Horrabin Hall
Western Ill. University
Macomb IL 61455

by January 1, 1984

Macomb 0-3 Project

CORE CURRICULUM - EVALUATION SHEET

Date _____

Agency _____

Position _____

Number of handicapped children served _____

Please respond to the following questions:

1. What are the strengths of the CORE Curriculum?

2. What are the weaknesses of the CORE Curriculum? Please include suggestions for improvement.

3. Please comment on the order and content of the skill sequences and note specific discrepancies and/or deletions of relevant skills.

4. How did you use the CORE Curriculum? (Which columns did you use? Did you use the curriculum in writing goals and activity plans, etc.?)

5. Did you add adaptations to the CORE Curriculum?

Yes _____ No _____

If yes, please enclose copies of the pages where such additions are made.

6. Did you add activities to the CORE Curriculum?

Yes _____ No _____

If yes, please enclose copies of the pages where such additions are made.

7. Did you use any other curriculum in addition to the CORE Curriculum? If so, what?

8. Overall, were you satisfied with the CORE Curriculum?

extremely satisfied			satisfied			not at all satisfied
7	6	5	4	3	2	1

9. Do you wish to renew your application for further field testing of the CORE Curriculum?

Yes _____ No _____

Comments:

ADDITIONAL COMMENTS:

12/82

OUTREACH: MACOMB 0-3 REGIONAL PROJECT

27 Horrabin Hall
Western Illinois University
Macomb, Illinois 61455

Request for Information About OUTREACH Services

Name/Position: _____

Agency/School: _____

Address: _____

_____

Phone Number: _____

Indicate interest in obtaining information about the OUTREACH: MACOMB 0-3 REGIONAL PROJECT services listed below by placing a check mark in the space provided.

AWARENESS:

_____ Our presentation of the MACOMB 0-3 MODEL familiarizes you with the benefits that can be gained by the use of our model and our involvement with your staff.

PRODUCTS:

_____ Baby Buggy Books

_____ Baby Buggy Papers

_____ Slide/Tapes

CONSULTATION/STAFF DEVELOPMENT:

_____ Identification of program needs

_____ Child development and assessment

_____ Parent involvement and parent groups

_____ Management systems

_____ Materials/product development

_____ Program evaluation

_____ Grant writing and obtaining funds

_____ Community awareness

_____ Documenting program effectiveness

_____ Working with the medical community

_____ Strategies for programming in the 1980's

COMPONENT ADOPTION:

_____ Home Visits

_____ Sharing Centers

_____ WADE (Water Activities for Developmental Enhancement)

MODEL ADOPTION:

_____ When you choose to adopt the JDRP (Joint Dissemination Review Panel)-approved MACOMB 0-3 MODEL (Home Visits, Sharing Centers, and the Core Curriculum) you receive training and assistance in implementing the components of the Project as well as ongoing involvement with us at no cost to participating programs.

OUTREACH: MACOMB 0-3 REGIONAL PROJECT

Description of Dissemination Materials

Baby Buggy Paper #121 - WADE (Water Activities to Enhance Development for Handicapped and High Risk Infants)

The water activites program developed by a CDS in the Macomb 0-3 Project for handicapped and developmentally delayed children from birth to three is described in this paper. The program is designed as a medium for body and head control as well as physical development exercises, along with being another means for socialization among children in the Project with typical children. Included in the paper are methods for organizing such a program, activities used in the pool, and various stages of water adjustment. (8 pages)

Baby Buggy Paper #122 - Sharing Centers

An overview of the component and curriculum developed by the Macomb 0-3 Regional Project. Sharing centers are places for parents and children to interact and share ideas, activities, and experiences for mutual growth. They involve handicapped and delayed young children and their parents, siblings, and typical children and their parents. (3 pages)

Baby Buggy Paper #124 - Six Model Sharing Center Kits

The contents of six model sharing center kits are described in this Baby Buggy Paper. Activities in each kit are categorized under the headings of gross motor, fine motor, cognitive, sensory, and language, although there is a certain amount of overlap. (19 pages)

Baby Buggy Paper #131 - Using a Mobile Unit in a Rural Infant Project for Handicapped and High Risk Children and Their Parents

The Jamboree Motor Home is used by the 0-3 Project as a "room on

wheels" to work with the parents and children in outlying rural areas served by the Project. Included in this paper is information on specifications, maintenance, and cost figures for a three-year period. (8 pages)

Baby Buggy Paper #140 - Developmental Language Chart 0-6

The developmental chart presents a breakdown of language development by months from birth to six years into the three areas of semantics, syntax, and phonology. (5 pages)

Baby Buggy Paper #151 - Integration of Uzgiris and Hunt Ordinal Scale (I-V) of Psychological Development with the Vort Behavioral Characteristics Progression Chart

The materials contained in this paper describes how the staff of the 0-3 Project integrated items from the Uzgiris and Hunt Scales with the Vort Behavioral Characteristics Progression Chart, therefore combining Piagetian concepts with behavioral concepts. These charts were used by staff members in planning goals and activities for children for two years during development of the model. (10 pages)

Baby Buggy Paper #152 - Staff Activities Accountability Program

The Staff Activities Accountability Program (SAAP) was developed originally as a cost accountability instrument for the Project adapted from a similar program conceived by Dr. William Gingold. Some of the other uses of the SAAP are briefly described in the paper and a copy of the program is included. (15 pages)

Baby Buggy Paper #153 - Using the Staff Activities Accountability Program

Information is provided on procedures necessary to implement the Staff Activities Accountability Program (SAAP). The paper includes categorization, recording and coding procedures, steps to take in initiating a SAAP, and Sample computer printouts. (4 pages)

Baby Buggy Paper #154 - Staff Activities Accountability Program (Replication Edition)

The replication edition of SAAP has been modified to fit other agencies' needs; categories are more general in nature. (15 pages)

Baby Buggy Paper #155 - A Fortran IV Program for the Generation of Child's Progress Chart

This material describes the procedure used in setting up a Fortran IV computer program for child progress charts. (8 pages)

Baby Buggy Paper #156 - Annotated Examples of Child's Progress Charts

Examples of children's progress charts point out the validation of the choice of activity or the need for revision on the part of the professional. (9 pages)

Baby Buggy Paper #157 - Parent Charting of Long Term Goals

The charting system used by the Project with selected parents is described in detail in this paper. Sample task analyses, daily recording sheets, and frequency graphs of data collected during one week of charting are included. (13 pages)

Baby Buggy Paper #158 - A Design and Timeline for an Early Childhood Handicapped Project Assessment/ Evaluation: The Macomb 0-3 Regional Project

The purpose of this paper is to present a summary of an evaluation plan which can be used for gathering necessary data for internal decision-making while at the same time meeting criteria needed for public accountability; a two-year timetable lists the evaluation measure, time interval, and dates for accomplishment for children, parents, and staff. (8 pages)

Baby Buggy Paper #161 - Cross Referencing: Core Curriculum Items with Alpern-Boll, REEL, and Uzgiris-Hunt Items

The cross-referenced materials presented in this paper represent Core Curriuclum activities (the most used goals and activities used by the Macomb 0-3 Regional Project) and their relationship to specific test items in the test battery. (20 pages)

Baby Buggy Paper #162 - Cross Referencing: Alpern-Boll and REEL with Core Curriculum Items

The cross-referenced materials presented in this paper represent specific test items from the test battery and their relationship to Core Curriculum activities (the most used goals and activities ad determined by examination of the Bi-Yearly Goals for the children who participated in the Project). (17 pages)

Baby Buggy Paper #163 - Curriculum Development in the Macomb 0-3 Regional Pfoject

This paper presents information regarding curriculum development in the Macomb 0-3 Regional Project, including basic assumptions about the young child as learner and the conditions necessary for learning to occur, characteristics of the Core Curriculum, and an account of the development and actual use of the Core Curriculum. (15 pages)

Baby Buggy Paper #164 - Development of Bi-Yearly Goals

Development and use of Bi-Yearly Goals, the basis for individualized educational programming in the Macomb 0-3 Regional Project, are described in this paper. The reader is encouraged to refer to Baby Buggy Papers #163 and #165 for more complete information about individual programming. (9 pages)

Baby Buggy Paper #165 - Activity Plans for Home Visits

The activity plan, basedon the child's individual plan of Bi-Yearly Goals, is a list of experiences that are to be provided for the child during the course of each home visit. A sample activity plan is included. (5 pages)

Baby Buggy Paper #171 - Developing a Referral System

Two major steps are involved in the important task of developing a referral system in a parent/infant project: development of a referral network (cooperating local agencies) and development of a system to process the referral as soon as possible after it has been received. Both steps are described in this paper. (5 pages)

Baby Buggy Paper #172 - Development of General Awareness of the Importance of Early Intervention

A description of general awareness procedures geared to a variety of target audiences in a rural area is contained in this paper. (3 pages)

Baby Buggy Paper #173 - What Happens When a Child Turns Three

This paper describes the procedures and placement alternatives available to parents and Child Development Specialists as a child in an infant project nears the age of three. (3 pages)

Baby Buggy Paper #174 - Maintaining Communication and Coordination with the Medical Community

This paper outlines some of the procedures used by the Project in developing and maintaining a referral and information network with physicians, nurses, and hospital personnel in the area. (8 pages)

Baby Buggy Paper #175 - Establishing a Functional Advisory Council

Information on selection of members, procedures for holding meetings, and a description of the services provided by the members of the Advisory Council are contained in this paper. (5 pages)

Baby Buggy Paper #201 - Toy Workshops for Parents: Bridging a Gap

A toy-making workshop is an example of a successful activity involving parents. It has been instrumental in bridging the gap between parents and professionals. Details of how to conduct such a workshop and suggestions for activities are contained in this paper. (5 pages)

Baby Buggy Paper #240 - Selected Bibliography for Parents' Reading

The bibliography includes selections of books in the following areas: Activity Ideas for Parents, General Infant Development, Technique Books for Parents, and Specific Conditions. (6 pages)

Baby Buggy Paper # 241 - Language Development: You Don't Buy It at the Store

This paper provides many useful suggestions for enhancing children's language development, as well as a description of the development of grammar in children from the beginning of language up to the age of 5. (6 pages)

Baby Buggy Paper #242 - Toilet Training Your Child

Toilet training a child is not as upsetting for parent and child as it may have been in the past. This paper describes how both parents can work together in a positive, natural way to toilet train their child. (9 pages)

Baby Buggy Paper #300 - Selected Bibliography for Staff Knowledge and Skills

This list of books includes readings in the following general areas:

Curriculum-Related Materials, Evaluation Materials, Child Growth and Development, General Early Childhood, Handicapping Conditions, Infant Development, and Working with Parents. (6 pages)

Baby Buggy Paper #401 - Working Together to Serve Language-Delayed Children

The purpose of this paper is to document in detail the cooperative activities between the Macomb 0-3 Regional Project and the Speech and Hearing Sciences Department of Western Illinois University in serving language-delayed young children. It describes the provision of the Project as a practicum site for graduate students in speech pathology, the participation of the students in home visits with the CDS's, and the benefits of this program to both the students and the Project. (4 pages)

Baby Buggy Paper #411 - Undifferentiated CDS Staffing Pattern

Delivery of services in a rural area calls for a staff of sensitive, flexible, adaptable individuals--in other words, an undifferentiated staffing pattern. This paper describes the roles and responsibilites of the CDS in conducting home visits, sharing centers, water activities, working with college students, providing in-service training, development of dissemination materials, and other services. (5 pages)

Baby Buggy Paper #501 - The Story of "Baby Buggy" or the Development of the Project Logo

One of the first tasks faced by an HCEEP project in its first year is that of beginning to develop dissemination materials to "spread the word" regarding the project's activities. The Macomb 0-3 Regional Project met that task through the development of a unique log, the Baby

Buggy, which has been the unifying element for a series of Baby Buggy papers, Baby Buggy books, and other materials for Project dissemination. This paper tells where the logo "Baby Buggy" came from and the many ways it has been used to disseminated information about the Project. (4 pages)

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Baby Buggy Book #1 - Have Wagon: Will Travel - Sharing Centers for Rural Handicapped Infants, Toddlers, and Their Families

This curriculum guide for initiating, planning, and conducting sharing centers for handicapped and delayed infants and toddlers from a rural area includes illustrations and pictures, activities, snack ideas, supplier list, and background information about sharing centers. (122 pages)

Baby Buggy Book #2 - Everything AND the Kitchen Sink - Ideas for Making Toys from Household Items.

Ideas for parents for making toys from household items at different levels of a child's development are contained in this book. It describes how to make the toys, materials needed, and area of development to which the toy is geared. (23 pages)

Baby Buggy Book #3 - Your House or Ours - Home Visits for Rural Handicapped Infants, Toddlers, and Their Parents

This illustrated home visit overview includes a section on early intervention, a description of Project staff, procedures for referrals and home visits, preparation, planning, and evaluation procedures, and a description of where home visits may take place. (11 pages)

Baby Buggy Book #4 - You Can Make It: You Can Do It (A group of toys and games to make for little children)

This book contains patterns for toys and games that can be made at home. It includes knitted, crocheted, and sewn toys, wooden toys and games, and toys made from household items. (134 pages)

SOCIAL INTERACTION

154

Prompting and Praising Social Interactions

(Adapted from Social Integration Project Basic Skills Manual;

Teaching Basic Skills to Handicapped Preschoolers in Integrated Settings)

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Graduated Prompting

Graduated prompting is an intervention strategy which is designed to provide the student with the least amount of assistance needed to complete a skill. It refers to the verbal and physical guidance a teacher gives to the child. The essential point to remember when using graduated prompting is to provide only the minimum amount of help needed to have the child complete a task.

Initially, a child is prompted verbally. A verbal prompt is simply telling the child what to do. If the student does not respond or responds incorrectly to the verbal prompt, the teacher then models the task to the child while repeating the prompt. Modeling is simply demonstrating or showing the student what to do. If modeling is also unsuccessful, the teacher must then physically guide the student through the task. For example:

(a) The teacher has just given Johnny the verbal prompt, "Share your crayons with Susie". He does not respond. The teacher must now,

(b) repeat the original command while showing Johnny how to share the crayons. If he still does not respond correctly,

(c) the teacher must now repeat the verbal prompt while simultaneously grasping his hand and guiding him to pick up the crayons and then give them to Susie.

There are variations within each level of prompting. A verbal prompt can be general, describing a terminal skill ("Share your crayons with Susie") or a series of specific prompts ("Find the crayons";

"pick them up"; "pass them to Susie", etc.). As a child masters the steps within each skill, the prompts are faded to where only the terminal skill is prompted.

Phsyical prompting can be doing every part of the task with (for) the child or just touching his or her arm to initiate movement. Again, the less help given the better, as long as the skill or behavior is completed. When using a physical prompt, couple it with the original verbal prompt. Then repeat the verbal prompt giving the child an opportunity to perform the skill alone.

Physical prompting has a major limitation in respect to verbal responding. That is, it is not possible to physically prompt speech. If the teacher prompts, "Say hi to Susie", and the child says nothing, the teacher cannot physically force the child to speak. If a child does not follow a verbal prompt on a skill which cannot be physically prompted, it is sometimes effective to ask a different child to complete the skill. When that child responds, he should be enthusiastically praised for completing the skill. It may also be possible to substitute and physically prompt a motor response, such as waving to Susie.

Praising

Praising is used to reinforce the child for responding appropriately. The most common type of praising utilized is social-verbal praise. There are three rules for praising the preschool aged child.

1. Be specific.
2. Be immediate.
3. Be enthusiastic.

When praising, tell the child exactly what he is doing that you like. "Good sharing the crayons!" is much more effective than "good boy". Praise the child as soon as he completes the skill, but be careful. Don't be caught praising Johnny for hanging up his coat as soon as he stands up. He may walk right past it! Be enthusiastic and sincere when praising the child.

Verbal praise should be coupled with social praise. Hugs, pats, and smiles should come from the student's peers as well as teachers. Initially praise the child each and every time he completes a prompt. As the skill becomes mastered and part of the child's repertoire, systematically fade the rates of praise. Be generous in the use of praise. Good attempts deserve praise, as do skilled responses. Quiet sitters and listeners deserve praise as do active participants. Alternate praise of individuals in a group with praise of the group as a whole.

Praise should be given immediately after the child does the desired skill (or makes an attempt). Praise should be contingent, that is, it should be given when the child does the skill and it should not be given when he or she doesn't do it. Praise statements should be given sincerely and the form should vary. The same thing said over and over again becomes boring and loses its effectiveness.

It <u>is</u> possible to overpraise. If the child does something frequently on his own, that skill should be praised less than a skill which is still developing. Lessening the amount of praise given to an acquired skill actually serves to strengthen that skill. If praise interrupts an ongoing behavior and child focuses her attention on the

adult, the adult is probably overpraising. A final note: when in doubt - praise- immediately after the child does what you want.

Success in Education:
The Assimilation of the Cognitive and the Affective

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Education in American today is primarily a cognitive experience. Even then most of the cognitive production comes from the levels of knowledge and comprehension.

It is not the purpose of this writing to disparage the cognitive domain. On the contrary, the cognitive levels of knowledge, comprehension, application, analysis, synthesis and evaluation all have great and lasting value and are a vital part of our total education. The skilled educator will use them wisely as a part of the total school program.

The wise and conscientious educator will see the wisdom in assimilating the cognitive and the affective domains in the education process. Both the cognitive and the affective are important, but one without the other leaves a void which will present the student with a less-than-ideal education. It is easy and convenient for educators to live within the comfortable confines of the cognitive in their grading and reporting system to parents. Grades and progress from the cognitive process can be more easily explained to parents but actually can't be justified because of the great amount of ambiguity which surrounds this type of grading and reporting.

In the affective we are dealing with such things as attitude, values, interests, feelings, emotions, self-worth, acceptance or rejection, appreciation, biases, mood and temperament. It is much more difficult to measure success and achievement in the affective domain

and to report this to parents and others but rich rewards will follow the skilled use of such a resource.

Teachers should never, never, never make any derogatory or potentially damaging remarks about a student anytime or anywhere. Remarks such as dummy, stupid, brats, ignorant, and worthless should be extirpated from a teacher's vocabulary while making reference to the student. A teacher should always look for what is right with the student and then emphasize the positive. It actually works! Remarks such as "You really have a cute smile", "I really like you","Thanks for being my friend", "I surely am proud of you","I have heard good reports about you", "I am pleased with your progress", will bring absolute and positive results. Students will respond in a positive way if they are treated in a positive way. Even sincere compliments about a student's dress, shirt, belt or some other item of clothing bring positive feelings and positive results.

Until we can get something better than grades and credits in our schools we should emphasize the positive. Compliment the student on what he or she did right, on the questions they answered right and set reasonable goals to continue to improve in the future.

Have you ever noticed that some teachers are "popular" with students? Students have a tendency to seek advice and counsel from these teachers. This type of teacher becomes a great model for the student in his or her progress in becoming a responsible and productive citizen in society. The teacher always has a positive attitude about the weather, sports, politics or whatever. They also abound with copious amount of smiles and cheerfulness. This teacher is always anxious to help the student and is not afraid to go the "extra

mile" in their behalf. Unfortunately, in some cases, the teacher may be the only friend the student has. That is something to think about.

CURRICULUM AND INSTRUCTIONAL ISSUES

A Generic Approach to Direct Instruction

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New skills and technologies are continuously accruing from the growing knowledge of events that influence learning. It is the purpose of this paper to present a set of principles that underly some of these skills and technologies and thereby facilitate the teaching/learning process. These principles are referred to as the process of direct instruction (DI).

Direct instruction is defined as a pre-determined and systematic method of instructional delivery which is designed to maximize the efficiency of the teaching/learning process. The teaching part of this process is both pre-determined and precise. The efficiency of the teaching/learning interaction is measured by the rate and accuracy of student responses.

It is recommended that direct instruction be employed when teaching outcomes are clear and behaviorally stated, and the measureable responses of the children are the criteria for determining the level of successful teaching/learning. It is not suggested that the entire school day be spent in the direct instructional process; rather, when the goal is to teach precise responses in the most efficient way, DI techniques are recommended.

One of the obvious goals for pre-school handicapped children is to master self-help skills at the level needed to participate to the

fullest extent possible with normal children in the regular classroom when they enter first grade. It is our experience that many of these skills deficiencies can be corrected by teaching the skills at a faster rate than these children would normally learn them. Skills in the areas of dressing, expressive language, and motor training are often taught without planning, consistency, or thought about the level of independence needed by the child after he/she leaves the nurturance of the preschool environment.

Before engineering a direct instruction sequence, a tremendous amount of planning and rehearsal is necessary, for each step in the direct instruction process occurs quite rapidly. It is typical to elicit four to eight responses per minute, minimum, from each child within the instructional group. The result is an increased number of response opportunities for slower children. DI prerequisites include: a determination of the necessary learner information through psycho-educational assessment; a curriculum match statement; learning contracts (including behavioral/instructional objectives and related curriculum materials);behavior management systems; student grouping; classroom engineering; and accountability strategies.

Many curriculum materials do not provide the necessary planning or directions. Therefore, we suggest that the teacher be prepared to develop or modify any existing plans by completing a task sequence planning form and teacher behavior presentation planning form to insure consistency in the presentation. The task sequence planning form is used to identify a terminal self-help behavior. The terminal behavior is operationalized into a behavioral objective. The behavior is then

broken down or task analyzed into from two to nine sequential steps which lead up to performance of the terminal behavior. The steps in the task analysis are stated only in performance terms, with completion of the previous task becoming the stimulus for the following step. The student progress level per period of instruction is charted by circling the number of the instructional period which corresponds to the highest level of performance demonstrated by all the children in the group.

The teacher behavior presentation planning form is used to identify specific applications of the DI components needed for teaching the behaviors in the sequence identified on the task sequence planning form. A teaching routine of teacher presented signals and demonstrations, child responses and teacher feedback is developed. This routine should incorporate those DI skills suggested by learner information.

Particular attention should be given the column on the teacher behavior presentation planning form labeled "Teacher Input, instances/non-instances." For teaching each skill in the task sequence, consideration must be given to new concepts which are to be learned. The presentation and curriculum materials used need to observe the following rules:

1. Concepts are not taught in the abstract. Instances must pinpoint observable characteristics.
2. Concepts must be taught through more than one instance.
3. The presentation must never vary or change the determined discriminative characteristics when presenting instances.
4. The presentation must vary the non-discriminative characteristics when presenting instances.

5. The presentation must include both positive and negative instances of the concept being taught.

The sequence of the tasks presented to the children should also follow these rules:

1. First, present introductory tasks using instances which have the discriminative characteristics of the concept but vary the non-discriminative characteristics.
2. Second, present contrasting tasks using non-instances.
3. Third, provide terminal, or application - tasks to determine if the child has reached the stated terminal behavior.

It is critical in using DI with young children to use language that is familiar from prior learning. The teacher should also place those concepts that are difficult to discriminate from one another in the final part of the instructional sequence.

The suggested student grouping procedure involves three separate groups of three to five children each, with the classroom engineered into a minimum of three centers. Center one is the direct instruction center from which the teacher presents all direct instruction. Center two is supervised by an aide and provides an opportunity for the repetition of concepts taught in Center one. Center three is the mastery center in which students work independently on concepts previously acquired in Centers one and two. It is the purpose of each direct instruction activity to introduce new concepts at a rate which will provide the slowest member of the group with functional mastery of the self-help skills presented.

A typical direct instruction presentation is designed for fifteen minute time periods. Thus, during a typical fifty minute class period, all three instructional groups rotate through the direct instruction centers. By the time students have rotated through the three centers, a tremendous amount of concept repetition has occurred. It is this teacher specified repetition that facilitates long term mastery of the concepts taught.

Direct instruction consists of the following 18 skills. Most of these skills will be used in every direct instruction presentation. However, due to the uniqueness of objectives and materials to be used, some presentations will not use all the direct instruction techniques discussed. Nonetheless, the objective is for the teacher to master all 18 direct instruction techniques and incorporate as many as possible into every direct instruction presentation.

The following is a list of suggested Direct Instruction skills.

Direct Instruction Skills

1. Attention Signals

The basic principle is that before a teacher can efficiently teach a student anything, the teacher must have the student's attention. Most teachers however were never taught how to obtain student attention and dismiss the idea as impossible. Obtaining the attention of all students in a small group is a relatively simple process. However, this feat requires some planning and teaching. Students frequently learn that it is unnecessary to attend in order to obtain reinforcement. Students learn quickly from the teacher and each other that when they do not attend they come up winners more often than losers.

Rules:

1. Train student attention early. Ideally the training of student attention would be consistent throughout school from kindergarten through 12th grade.
2. Develop a variety of attention signals or cues.
3. Teach the desired student response(s) to selected signal(s).
4. Never begin instruction until all students are attending.
5. Immediately reinforce those students who respond to the attention signal.
6. Never accidentally reinforce the non-attending student with attention that could be interpreted as positive.
7. Ensure that the stimulus that follows each attention signal is reinforcing to the students. If what follows the attention signal is consistently boring or irrelevant, the attention signal will soon lose its effectiveness.

Examples of attention signals include: visual: teacher raises one hand; teacher turns light off and on rapidly; etc. Auditory: teacher says "listen," or "look"; or sounds a buzzer or bell; etc. Attention signals should be practiced several times before using.

Example:

Teacher: "I have something new to share with you today. When I hold my hand up like this (teacher models), it means stop what you're doing, sit up in your chairs, and listen to me".

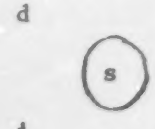
2. Instances and Non-Instances

Whenever the concept being taught allows, it is advisable to teach that concept in a two-step operation. First, teach what the concept is. For example, if the teacher is attempting to teach the color red, the logical first step would be to select some red object and present it to the group and say "This is red!" Most teachers do this well. The problem is that most teachers stop here; but this is teaching only instances of the concept. It is equally important to teach what red is not. This process forces the teacher to teach cleanly; that is, on concept at a time. It also facilitates student learning.

Rules:

1. Teach what the concept is. Give several examples (instances) of the concept.
2. Teach what the concept is not. Give several non-examples (non-instances) of the concept.

A suggested format for an instance/non-instance presentation is shown below. The sound being taught is "s".



Example:

Teacher: Pointing to the s in the center of the group of letters, teacher says, "This is 'sssssss'."

After repeating the above several times:

Teacher: "Group, what is this; it is _____?

Student: "sssssss"

Teacher: "Good." The pointing to another letter, teacher says, "Is this 's'?"

Student: "No."

Teacher: "Good, you are right!"

3. Response Signals.

To facilitate teacher control of the student group it is necessary to program which students will respond at what time to a given stimulus. To do this, the teacher must develop and use signals which elicit responses from students. The general rule is: wait until you see the student response signal before responding.

Rules:

1. Develop a variety of response signals.
2. Develop signals which elicit both individual and group responses.
3. Teach what the signal means through modeling, reinforcement, and CONSISTENCY.
4. Never accept a response from a student to whom a signal was not presented. Do not be guilty of accidentally reinforcing inappropriate behavior, even occasionally.
5. Immediately reinforce students who have responded on cue for: a. waiting for the cue; and b. the accuracy of the response.

if followed immediately by the desired response, is effective and without harm. The principle is, when a response is given by the student, the teacher reinforces the response if it is acceptable or immediately corrects the response if it is unacceptable.

Rules:

1. Provide feedback immediately. If a response needs correcting, do so with a simple "no".
2. Provide props or cues to ilicit a correct response, or model the correct response for the student.
3. Use a variety of reinforcers for correct responses.
4. Praise specific behavior rather than non-specific behavior. Example: "Good counting!" rather than "Good job!".
5. Ensure that a positive to negative feedback ratio is never less than three-to-one.
6. Ensure that reinforcers are reinforcing to the recipient.

Examples of feedback include: visual: displaying an accepted manual sign which conveys the intended meaning; body language to convey the intended meaning; etc. Auditory: presenting selected verbal reinforcers for appropriate responses; saying "no", and model the correct response; etc.

Examples:

Teacher: "Who has the answer to this problem?" (4 + ? = 5) Teacher gives response signal (points to Bill, and says "Bill".

Student: "Nine."

Examples of response signals include: visual: pointing to a student with a finger or hand; using a pointer; using an exaggerated sweeping hand motion for group response; etc. Auditory: calling a student by name; giving such cues as "everyone," "group", etc.

By controlling student responses the teacher can easily individualize response rate, increase or decrease reinforcement, and control the amount of student repetition and general rate of instruction.

Examples:

Teacher:	"When I want you to respond, I will call your name and point to you" (teacher models). "If I want everyone to answer I will say 'everyone' and point like this" (teacher makes a sweeping motion toward the group).
Teacher:	Repeats the response signals instructions; then:
Teacher:	"Bobby, what does this mean?" (pointing to Bobby).
Bobby:	"I can talk".
Teacher:	"Super, you remembered the rule".

4. Feedback

The concept of providing feedback to learners is universally accepted. To effectively use the feedback process the teacher must: a. elicit a high rate of student response, and b. react to each student response in a way the student is able to judge the adequacy of his or her response.

Some teachers feel that correcting a student's response will cause psychological harm to the student. This is a false assumption. To respond to a student's incorrect response with a simple "no", especially

Teacher: "No, the answer is '1'. What is the correct answer?"

Student: "It's '1'."

5. Reinforcers

Positive reinforcement is one of the basic tools of behavior change, and as such is the premier change agent available to teachers. Every teacher should program the activities of each school day in such a way that every student in the classroom receives a tremendous amount of reinforcement. It is essential to the direct instruction process that students receive both primary and secondary reinforcement as necessary (see Chapter 28 for primary and secondary reinforcers).

Rules:

1. Use a variety of reinforcers during each direct instruction presentation.
2. Use a tremendous amount of verbal reinforcement.
3. Use physical reinforcement. Touch students.
4. Ensure that each student receives at least three positive reinforcers to each instance of negative feedback.

6. Pacing

Learning occurs when one reacts to the stimuli being presented. Effective pacing of instructional delivery can be a tremendous aide in eliciting reactions and maintaining attention to concepts presented. Instructional pacing is defined as variance in the rate of instruction. By preplanned and continuous variance of the rate of instruction, the teacher can facilitate increased student attention and reaction to what is being presented.

Rules:

1. Teach fast: Direct instruction should proceed at a faster rate than non-direct instruction.
2. Vary the pace of instruction. When a particular point is to be made, either increase or decrease the rate of instruction. Students will predictably respond with increased attention and learning.

7. Pauses

The effective use of planned pauses (actual stops) during instuction can be effective at recapturing the wandering attention of students or emphasizing a particular point. Pauses are effective almost any time, but are particularly valuable: 1. after attention signals are presented; 2. after a question has been asked and before a response signal is given; 3. immediately before a major point is made; or 4. immediately after a major point has been made.

Rules:

1. Plan pauses into the content of instruction.
2. Pair pauses with other methods of instructional control.
3. Use body language to emphasize the effect of pauses.

Pauses, especially when coupled with proper pacing, can be an effective measure of attention control.

8. Rhythm

Rhythm is defined as the cadence or flow of the instructional delivery. Instructional rhythm is distinguished from pacing in that rhythm involves the cadence of instruction, whereas pacing involves the rate of instruction. Rhythm, in conjunction with pacing, pauses,

and volume, are three of the four basic tools of the actor. Thus the process of designing and delivering a good direct instruction presentation closely approximates the designing and acting out of a good one-act play. In order to establish an acceptable instructional rhythm, the teacher should vary the cadence of the instruction: loud, soft, fast, slow, stop, etc.

Rules:

1. Use a variety of pacing, volume, and intentional pauses in order to construct the desired instructional rhythm.
2. Practice.

9. Response Rates.

Response rate is defined as the frequence of student responses. Just as student attention is a necessary part of the instructional process, so is a high rate of student response.

Rules:

1. Plan a presentation which requires a minimum of 30 verbal or graphic responses per student for each fifteen minute direct instruction session.
2. Provide feedback for student responses.
3. Monitor responses to ensure a minimum of 80% accuracy.

When the accuracy of response falls below 80%, consider it a signal that instruction is inadequate. Give honest feedback relative to the accuracy of student responses.

10. Volume

No single direct instruction concept is more effective at holding attention and eliciting student response than the effective varying of

volume or loudness with which an oral lesson is presented. Increase and decrease volume as appropriate when emphasizing a point of instruction. Alternating from LOUD to soft (voice inflection) is DYNAMITE!

Rules:

1. Plan variance of volume as part of instructional content.
2. Pair with other methods of instructional control, especially pacing and pauses.
3. Use appropriate body language to accompany volume variance.
4. Practice.

11. Body Language

Body language is defined as the planned use of body-part movements for the purpose of increasing teaching effectiveness. Body language can be used to accentuate a point, reinforce a student, facilitate the correction of a student response, etc. Body language involves but is not limited to: planned motion of the hands and/or feet; proximity of the body relative to the student; facial gestures; etc.

To this point eleven fundamental skills of direct instruction have been identified. Mastery of these eleven skills constitutes the most work for the beginning student of direct instruction. If one is successful at mastering these first eleven skills, those skills that follow can be easily accommodated into teaching methodology. As such the remaining seven direct instruction skills will be discussed more briefly than the preceding skills.

12. Enthusiasm.

Teacher enthusiasm is contagious, and inspires student attention, motivation, and learning. Enthusiasm can be conveyed by voice volume,

inflection, and rate; body language; mood; responsiveness; active listening; facial expression; etc.

Rules:

1. Be genuine and natural with your use of enthusiasm signals.
2. Use a combination of enthusiasm signals whenever possible, such as smile, body gestures, and voice inflection.
3. Combine positive reinforcement with enthusiasm signals.
4. Do not reinforce non-target behavior with enthusiasm signals.

13. Attention Span.

Students, even those with short attention spans, attend to various stimuli with varying degrees of attention for varying periods of time. Student attention span is therefore relative to the concept being taught, the stimulus materials being used, and the skill of the teacher. Nonetheless, when student attention is less than 80% direct intervention is called for.

Rules:

1. Prior to the beginning of instruction, select some method of continuously assessing student attention level.
2. During instruction, monitor the attention level of each student.
3. When any student attends less than 80% of the time, intervene.
4. Attention problems are problems with instruction, not the students.

14. Stimulus Change.

Stimulus change is defined as the teacher presentation of new stimuli to which students are expected to respond with a frequency equal to that of the student with the shortest attention span in the group. Too frequently one stimulus is presented to which all students

are expected to attend for the duration of the planned instruction. The stimulus change idea is to present new and changing stimuli at a frequency which maintains a high degree of student attention.

Plan to change stimuli frequently, and plan a variety of stimuli. When a student's attention begins to wander, present a new stimulus to which the student is expected to respond. A variety of reinforcing and well-used stimuli related directly to attention span.

Rules:

1. Plan every presentation in such a way that the primary stimulus changes at least every five minutes (or more frequently with problem students).
2. Use a variety of stimuli that are known to be reinforcing to the students.
3. Plan at least three different activities for each fifteen minutes of instruction.
4. When any attention level in the group fails to reach 80%, change the stimulus.

15. Surprises.

Students, from kindergarten through secondary level, enjoy surprises. Most teachers, however, fail to utilize this effective method of maintaining or reobtaining student attention. Examples of surprises could include: dropping a book; breaking a pencil; slapping the desk or table; etc. The point is, when attention begins to fall below 80%, do something different, such as create a surprise.

Rules:

1. Plan at least one surprise for every fifteen minute presentation.

2. Practice surprises before instruction.

3. Develop a list of surprises that have proven successful for various student ages.

16. Intentional Mistakes.

By making intentional mistakes during a direct instruction presentation, the teacher can accomplish at least two things. First, the teacher can teach, through modeling. that the consequences of making a mistake are not disastrous. Second, students appear overjoyed at discovering teacher errors. Such mistakes, especially if the students have been alerted to deliberate teacher mistakes, will increase student motivation and attention span.

Rules:

1. Make a minimum of two intentional mistakes during each presentation.

2. Once the mistake is made, continue instruction as if the mistake had not been made unless students discover the error.

3. Once the mistake is discovered by students, act surprised. Praise the student or students responsible for "catching" the mistake.

4. Encourage the students to continue to look for errors.

Examples of intentional mistakes include: putting a letter on the felt board upside down; misspelling a word on the chalkboard; leaving a word out of a sentence; an incorrect answer to a math problem, etc.

18. Mastery.

Ensure that those concepts elected for teaching are worthy of being taught. Briefly, teach only necessary concepts. Then ensure mastery

of all concepts taught.

Rules:

1. Select and teach only necessary concepts.
2. Require mastery before proceeding with additional instruction.

Assessing the Representational Behaviors of Play, Language and Drawing in Normal and Language-Delayed Children

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Over the past ten years there has been an increasing effort to identify the developmental link between cognitive thought and symbolic language development (Bloom and Lahey, 1978; Chapman, 1982; McLean and Snyder-McLean, 1978). Generally the focus of this work has been to discuss one form or another of the cognitive hypothesis (Chapman, 1982). Results of studies in this area have been equivocal in the sense that there is no clear evidence to suggest a one-to-one mapping of symbolic language onto cognitive skills. Rather, there appears to be a more simultaneous acquisition of cognitive and language abilities in situations in which some cognitive abilities consistently precede or follow the development of verbal language. This type of simultaneous development describes what is called the correlational form of the cognitive hypothesis (Chapman, 1982). Westby, (1980), Chapman (1982), and others have recently begun to examine child language from the perspective of this correlational position. Westby (1980) argues that because of the simultaneous acquisition of certain cognitive and language abilities, it should be possible to develop a scale to examine cognitive and language skills in children. The scale developed by Westby is the Symbolic Play Scale. It consists of ten stages which begin at the nine-to-twelve month level for Stage One and go to the fifth year for Stage Ten. At all stages both language and play are examined. In the present study, an attempt was made to expand the Westby Scale in accordance with the correlational form of the cognitive hypothesis. The Westby Scale was expanded to establish a more complete picture of the child's level of representational thought at any given age on the scale.

Symbolic play and language are both cognitive skills which require the child to mentally represent reality at various levels of abstraction (Fenson and Ramsay, 1980; McCune-Nicolich and Carroll, 1981; Lezine, 1973; Westby, 1980). Another developmental cognitive skill which requires the child to mentally represent reality is drawing (Goodnow, 1977; Goodnow and Friedman, 1972; Piaget and Inhelder, 1967). Lowenfeld and Brittain (1975) argue that drawing, because of visual-motor and eye-hand coordination limitations, does not begin to become functional for the child until approximately twenty-four months, i.e., in the form of an unstructured scribble. Following this early period, however, drawing rapidly becomes an important form of graphic symbolic representation for the child. This is evidenced in children's drawing as they begin to demonstrate an understanding of such complex cognitive skills as conservation and decentration (Goodnow, 1978; Lowenfeld and Brittain, 1975).

Basically, there appears to be a codable and identifiable developmental link between the representational abilities of symbolic play, language and drawing. The purpose of this preliminary study was to begin to investigate this link in two ways:

1. To develop a drawing scale which can be directly interfaced with the Westby Symbolic Play Scale.
2. To assess play, language, and drawing in normal language-learning and language delayed children in order to investigate patterns of development within and between each group.

METHODS

Subjects. The subjects were four normally developing children between the ages of three and five. They were attending a university laboratory preschool and had been diagnosed by the preschool as being free from physical and intellectual problems. In addition, five language-delayed children between the ages of two and one-half and six years were assessed. These five children were identified as language-delayed based on a complete speech and language evaluation in a public school setting which included results from formal language assessment procedures. All subjects had normal hearing and were free from all physical or serious intellectual handicapping conditions. Children identified as mentally retarded were specifically excluded from this investigation.

Play Language/Drawing Scale.[1] A revised form of the Westby (1980) scale which included play, language, and drawing was the assessment procedure used with all subjects. The revised scale consists of eleven stages which begin at the 9-12 month level for stage one and to the 5th+ year for stage eleven. In stages one through four, the scale addresses behaviors only in the language and play areas. Stages five through nine consider behaviors in play, language, and drawing. Stage eleven in concerned exclusively with drawing.

The sequence for the play and language stages of the scale were derived from Westby (1980) while the sequence stages for the drawing

[1]Copies of the scale are available from the authors on request.

portion of the scale were derived from Lowenfeld and Brittain (1975). Basically, drawing behaviors were used in the scale which related developmentally to the various play and language behaviors in the original Westby Scale.

Procedures for Administering the Scale. The scale was administered to all subjects in a single, continuous session. The observational data for play and language were derived from engaging the child in structural free play activities with the examiner. For the drawing portion of the scale, each subject was required to complete at least the following three drawings: 1) a free drawing of their choice, 2)a drawing of an animal of their choice, 3) a free drawing of their family or a family member.

To insure inter-rater reliability, the scale was administered and scored only by the three examiners who were directly involved in the original development of the scale. Simultaneous independent coding of randomly selected portions of the scale by the three examiners indicates an inter-rater agreement of .93 with both a normal and a language-delayed subject.

Scoring. Items on the scale were scored using a plus/minus system to indicate the presence or absence of a given behavior in any one stage. For a child to be given credit for achieving a particular stage on the scale, he or she could fail no more than one item at that level.

Analysis. Data for the present pilot study were graphed and studied visually in terms of distribution and level of function across the three areas of symbolic function examined i.e., play language and drawing. A descriptive analysis of the data is provided within and across subject groups.

RESULTS AND DISCUSSION

The results of administering the play language and drawing scale to the two groups of normal and language-delayed subjects are presented in Figures 1 and 2 respectively.

These data suggest that the normally developing subjects functioned at or near (±3 months) age level in all three areas of representational thought addressed on the scale. Language-delayed subjects, however, all demonstrated delays in the three representational areas of language, play and drawing. It is noteworthy that the language level of all language-delayed subjects on the scale was equal to or below their respective levels for play and drawing. Additionally, three of the five language-delayed subjects showed a performance pattern on the scale which suggests that language is lagging at least six months behind the development of their play and drawing behaviors.

These data suggest language-delayed children may not demonstrate age-level cognitive skills in the representational areas of play and drawing. Language-delayed children, however, may possess representational skills in play and drawing that are either equal to or above their level of language function. Based on this finding, a possible inference is that play and drawing may be appropriate for use in the remediation process to improve a child's level of language function. Certainly these results suggest not only a series of conclusions, but also a clear direction for the next phase of the project.

CONCLUSIONS

On the basis of the limited data collected in this pilot study, the following tentative conclusions may be drawn:

1. It is possible and appropriate to interface a drawing scale with a scale assessing other areas of representational thought, i.e., language and play.
2. Normally developing children should perform at an appropriate age level, plus or minus a stage in the areas of language, play,and drawing ability. They should not demonstrate unexplained splinter skills in any of these three areas.
3. If a child is language-delayed in relation to his or her chronological age, delays in play and drawing may be predictable due to the fact that all three skills are related to the representational thought process.
4. Language-delayed children should show a delay in play and drawing relative to chronological age. These delays in play and drawing, however, should be no greater than a child's language delays.
5. Based on the above mentioned conclusions (#4), it may be possible to use play and drawing in the remediation process to improve a child's level of language function.
6. Language-delayed subjects should demonstrate splinter skills in play, language, and drawing above their highest level of achievement on the scale.

DIRECTIONS FOR THE NEXT PHASE OF THE PROJECT

In order to further substantiate these conclusions and identify others, the most basic needs in the next phase of the present study are to:

1) Operationally define and explore the notion of splinter skills in these representational areas.
2) Revise the language section so that the items examined are sensitive to language behaviors in the areas of both comprehension and production.
3) Redefine behaviors in the play category to increase reliability and validity of that section.

In this study, language-delayed children were assessed using the play/language/drawing scale and other procedures which identify the language level of the child. Based on the results of these concurrently administered procedures, it is evident that the language portion of the scale needs to be more sensitive in order to establish accurate language levels in the child. By appropriately modifying the language portion of the scale in the areas of comprehension and production, both the reliability and concurrent validity of the procedure will be improved. Redefining the terms of the play portion of the scale will similarly improve both the internal consistency and item validity of the scale.

Once the scale has been revised relative to the above suggestions, investigation will be undertaken in controlled assessment environments to accomplish the following:

1) Establish the reliability and validity of the procedure.

2) Identify patterns of performance on the revised scale within and between normal, language-delayed, and mentally retarded children.

3) Attempt to identify the sequence of developmental and prerequisite skills which may be predictive of a child's later representational ability.

4) Explore the phenomenon of splinter skills which emerge on this scale. Specifically, consider the relationship of splinter skills to the above mentioned handicapping conditions and the teaching process.

5) Consider the usefulness of the scale in planning and implementing communication behavior treatment with language-delayed and retarded children.

Approaches for Dealing With the Anorexic Infant and Toddler

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A number of medical conditions, including renal failure, mental retardation, cancer treatments and drugs for hyperactivity result in eating disturbances. Such failures to develop normal eating patterns are referred to by a variety of labels. Anorexia (long-term loss of appetite) and failure to thrive are probably the most commonly used terms. The problems presented by many children with medical conditions or handicapping syndromes are multipled when those same children are anorexic. Feeding problems often complicate the required medications, indicated treatments, and nutritional requirements. The very young child with such problems problems an even greater challenge because of his/her lack of language and immature reasoning ability.

All too often neither parents nor pediatricians are prepared to properly intervene with the anorexic child. Ultimately, however, the burden of feeding falls upon the parent if the child is to remain in the home. This is true whether the child is breast, bottle, spoon, or tube fed. Too often parents become frustrated, resort to use of excessive punishment techniques and/or press for hospitalization or institutionalization of the young child when such directions may not be necessary.

Although anorexia usually originates from medical conditions, if these feeding problems cannot be readily corrected, behavioral

interventions are warranted. The rationale which supports this approach is two-fold. First, the aversion behaviors that young children exhibit are learned. These learned avoidance techniques are built and strengthened because they allow the child to successfully escape environmental demands. Second, proper behavioral interventions are far less restrictive and intrusive than medical interventions which often involve removal of the child from the home.

The behavioral manifestations exhibited by infants and toddlers are quite varied and grow in sophistication as the child matures. Head-turning, teeth-clenching, physical agression, crying, vomiting, and self-mutilation are examples of behaviors commonly seen in children who wish not to eat. These behaviors are learned methods of escaping demand. The demand is the external pressure to eat placed upon the child by family members. Interventions to increase the child's eating need to be based upon the orientation of escape behavior.

Escape behavior was defined as early as 1968 by Reynolds. However, applications to specific interventions for such behaviors have not been discussed until recently (Note 1 and 2). Although only a number of studies have validated individuals' interventions to escape (Carr, 1977) quite an extensive body of research exists to support the use of behavioral approaches to remediate eating problems (see Siegel, 1982, for a summary). However, little discussion has been offered applying behavioral interventions to the anorexic child. This paper will discuss appropriate interventions which can be used by the parents of the infant or toddler who has feeding problems.

General Considerations Concerning Food and Feeding

Before attempting to work with anorexic infants and toddlers, it is necessary for parent and professional alike to change his/her thinking concerning food and the eating processes. First, this reconsideration must focus on the fact that food intake is critical to the child. This fact supercedes all other concerns, including neatness, proper manners, and independent feeding. Second, food is not reinforcing to the child. Hunger, which builds the desire to eat in other children, is not present. Food is neutral and has appeal which parallels any other object found in the child's environment. Third, efforts must be met to keep food and eating from becoming negative and aversive from the child's perspective.

There are several other factors which should be remembered by those working with the anorexic child. It is important to control events associated with feeding. For example, consumption of non-nutritious calories before and during a meal will interfere with the child's ability to consume required nutrients. The novelty aspect of food should be consistently evaluated. Foods may be reinforcing substances to a child if they are presented in varied forms. Colors, consistency, temperature, and texture can all be modified. Further, it may be necessary to vary types of foods on a daily basis. Parents should remain aware that children with eating disturbances satiate on foods quite rapidly.

Adults may also have great reinforcing value to children. A favorite adult may have greater success in getting a child to eat

than other adults. On the other hand, varying those who feed the child may provide the child with novelty while providing an individual parent with a respite from the child. Both the needs of the child and parents should be taken into consideration when making such decisions.

Effective Interventions for the Anorexic Child

When selecting appropriate interventions to feeding problems, it is important to remember the child is attempting to escape the demand of eating. Therefore it is critical to select interventions which do not allow the escape and do not turn the feeding process into an aversive experience for the child.

With those two factors in mind, many of the approaches that have proven effective in controlling mealtime behavior in other children do not work with the anorexic child. Such practices as removal of food, sending the child away, and scolding allow the child to escape the demand and/or develop an adversive relationship between the child and the adult. There appears then to be three general approaches which can be effective with the child who refuses to eat. These approaches include continuing demand, the use of fun and distraction, and shaping the eating process.

The use of continued demand is by far the least complex of those interventions. It is based upon the principle that a pre-determined amount of food or formula must be consumed no matter what the child does. This often involves the holding of the spoon or bottle in front of the child's face and waiting for the child to comply and eat.

It is important for the adult not to become emotional or angry, but to continue the demand to eat. It should be remembered that when volume is pre-established it should not be increased when the child has finished the given command. Intentional vomiting and other non-compliant activities exhibited by the child are not allowed to alleviate the requirement to eat. This approach incorporates positive verbal feedback to the child on progress he makes toward the goal of finishing his food with continued demand.

The second approach revolves around making the eating process fun for the child. This may be accomplished in two slightly different manners. The first is the provision of entertainment by the person feeding the child or by other family members. This may consist of a variety of activities including singing, eating the same or similar foods, moving around, and playing games with the child. The second variation is to provide items which are entertaining to the child. The alternatives are unlimited. However, novel and unique items to the child, such as kitchen utensils, are often quite effective. On the other hand, a favorite toy may prove to be the best for some children. Both of these approaches in practice accomplish two ends. The child does not view the feeding process as negative and may even favorably anticipate feeding time. Further, the child is distracted from food and does not attempt to escape by exhibiting unacceptable behaviors.

The final approach involves the use of rewarding substances to shape appropriate eating. The procedure uses high preference foods or liquids as reinforcement for eating. Water, for example, is often

desired by children and infants. Bites or sips on a bottle containing formula are then followed by water. Gradually, larger and larger numbers of bites or sips of food or formula are demanded for the same amount of water. Although this shaping process is slow, it is effective with some children.

Finally, it should be noted that these three interventions are not mutually exclusive. In other words, they may be paired or even used simultaneously with the same child. Parents and/or professionals should continually evaluate the approach being used with the child and should modify it when such interventions cease to be effective.

Discussion

The anorexic infant and toddler offer an immense set of problems to the parent and professional. These problems can often be overcome through appropriate and consistent interventions. The parent must rethink the eating processes, arrange the environment, and ensure that eating does not become aversive to the child. The most appropriate interventions seem to be continued demand, the use of fun, and shaping the eating process. Other more commonly accepted behavior modification approaches may compound the child's resistance to eating rather than decreasing such behavior. Use of behavioral techniques to encourage and reinforce healthy eating habits can prevent the use of more radical medical interventions which might otherwise be required to preserve the health of the anorexic child.

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INSTRUCTIONAL INTERVENTION THAT WORKS:

Case Study Research

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Instructional intervention for children who have reading difficulties is the bridge between regular classroom performance and total failure as a student. Realizing that intervention often is only at best a bandaide to instruction, the ultimate goal of remediation is a reader who can survive the rigors of the educational system. Within these demands, successful intervention programs are associated with a high quality of instruction that is based on continuous evaluation of reading behaviors. These evaluations help to identify particular instructional techniques the teacher can utilize with a high likelihood of positive results. Thus, by necessity, effective reading instruction reflects a pattern of teaching strategies that are related to reading behaviors rather than one single intervention program (McDonald, 1976). Within the field of reading, a wealth of instructional strategies can be implemented to remediate inefficient reading behaviors. The appropriateness of each intervention strategy for a particular student can be identified through diagnosis and obeservation. Research suggests that for the primary grades the use of a variety of instructional materials based on accurate diagnosis increases the effectiveness of reading instruction (Rupley and Blair, 1978). These basic principles of intervention programs are incorporated in the reading clinic at Eastern Montana College.

The reading clinic at Eastern Montana College provides a center for preservice training of elementary education and special education majors. Functioning as a referral base for elementary students from nearby area schools and the communities in central Montana, the clinic provides remedial tutoring in reading. Elementary students accepted for tutoring

by the clinic receive about twenty hours of one-to-one tutoring under close supervision by college personnel.

The reading clinic maintains that success is the greatest motivating factor in learning to read. The initial diagnosis using a published informal reading inventory determines an appropriate instructional reading level for each student. Schneider (1979) has found that a balance of high success reading and medium success reading tasks result in higher student achievement. Thus, the level of reading material is validated by informal reading evaluations from instructional material. Concurrent to evaluation of performance reading level, the strengths and weaknesses of each student are identified. Subsequently, material is chosen that maximizes success based on learner strengths, styles and performance level. Specific methods are chosen to remediate the identified weaknesses of each student. This success approach to instruction is incorporated in a four-phased remedial session. First, each session begins with a directed reading-thinking activity using material that reflects instructional reading. The student usually has little difficulty in word identification or comprehension during this phase of the remedial session. The selection is also of sufficient length to allow for comprehension of story plot and character development; however, it is short enough to provide a sense of closure for the reader. Secondly, within the session a variety of short activities are planned using specialized methods to develop and modify reading skills and reading strategies. Third, each session contains an ongoing, informal evaluation to identify patterns of reading behaviors and monitor reading performance. In the fourth phase of the program students are

engaged in at least five minutes of sustained silent reading. The teaching focus at the Eastern Montana College Reading Clinic is on the academic task of reading and each student spends about sixty percent of each hour reading contextual material.

Following the structured plan, the tutors differentiate instruction to the strengths and proficiencies of the reading while incorporating specialized techniques to remediate weaknesses. For example, a student who had a limited ability to deal with oral language, participated in an extended vocabulary development program and direct experiences with the prerequisite concepts which were necessary to read a particular selection with understanding. Thus, the directed reading-thinking activity required an exceptional amount of time for the introduction of semantic vocabulary. However, those students who experienced little difficulty with semantic vocabulary, but extreme difficulty with oral accuracy, spent more time on word identification and fluency and less time on developing word meanings.

Although the remedial session is not focused on specialized remedial techniques, a few of these techniques produced rapid gains in student achievement during the twenty hours of instruction. To remediate oral accuracy and oral reading fluency, the techniques of alternate readings, neurological impress, repeated readings, and readers theatre are used. Alternate readings is a form of modeling appropriate oral reading fluency where the clinician and student alternate reading paragraphs while the clinician models appropriate phrasing, intonation, pitch and stress. In the neurological impress method the tutor and student read aloud together with the clnician reading louder and

slightly faster then the student. The clinician reads into the right ear while pointing to the line of print being read. Repeated readings is a method of re-reading meaningful, self-selected passages until speed and oral accuracy are satisfactory. After each reading different comprehension questions are answered. Reader's theatre focuses on oral reading fluency and expression by reading play scripts. The clinician provides a model for the student.

The techniques of word games, word banks, and Fernald techniques are used to reinforce sight word vocabulary. Word games include activities such as word concentration, word bingo, word fish that make a game of learning sight words. Word banks include a set of word flash cards taken from the child's reading vocabulary. The Fernald technique is a multisensory technique that involves tracing and writing the difficult words as they are said.

A variety of specialized techniques to improve comprehension and study skills are also employed for those students using inappropriate strategies. Semantic feature analysis are used to capitalize on the reader's prior knowledge to increase semantic vocabulary. In this approach the student uses a grid to classify salient features of vocabulary words. A subskills approach to comprehension using the Barnell-Loft specific skill series is used to remediate deficiences in identifying the main idea, drawing conclusion, etc. The recipricol questioning technique developed by Manzo is used to increase prediction strategies. In this approach the clinician models questioning strategies, then the student questions the clinician. Semantic webs are also used to increase comprehension and semantic vocabularies. This process

requires an interaction between student and teacher to construct a visual array of story characters and ideas producing a graphic representation of story cohesion based on personal knowledge and story content. Another comprehension technique is the Herringbone techinque where the student answered Who, Did What, When, Where, How, and Why questions on a visual representation. The traditional method of studying using the strategy of survey, question, read, recite and review sequence is also used to improve comprehension of content area texts. For some students the understanding of how syntax effects comprehension is developed using the cloze technique and sentence combining. With the cloze technique the student must predict words that have been related from an extended passage. The sentence combining technique requires students to combine kernal sentences in multiple ways. Purpose setting and creative writing are also used to increase comprehension.

Compiling Case Study Data

The data reported in this study serves as a survey of intervention technique used in the Reading Clinic at Eastern Montana College. Each remedial case study was analyzed to identify the major concern inhibiting reading achievement. These concerns were recorded with the accompanying pre and post test scores on published informal reading inventories. Gain scores were then computed for each case study. This information was collected for all students ranging in age from five to nine years old, who attended the Reading Clinic at Eastern Montana College during Spring, Summer and Fall quarters of 1982. These data were then summarized to identify with particular remedial methods appearing to effect reading growth. Eight techniques were used by forty percent of

the clinicians during the twenty hours of remedial instruction (see table 1).

TABLE I

INTERVENTION USED BY FORTY PERCENT OF CLINICIANS

INTERVENTION	AVERAGE GAIN SCORES*
Repeated Readings	1.0
Play Readings	.60
Language Experience	.72
Timed Readings	1.0
Cloze	.90
Neurological Impress Method	.76
Flash Cards	.68
Progress Charts	1.0

*Gain Scores were computed from pre-post informal reading inventories.

One characteristic of the intervention strategies involves extensive student-teacher interaction. This allows for a reality approach to remediation, where reading strategies, rather than simple knowledge of right or wrong answers, can be discussed. The second interesting characteristic of these techniques is that the majority of the techniques were used in the contextual setting rather than with isolated words or letters. Our analysis concurs with Wilson (1981) who maintains that reading behaviors are more appropriately remediated in terms of contextual print.

Of these eight strategies utilized, repeated readings, timed read-

ings and progress charts resulted in the highest overall gain scores. One characteristic of these methods is that each technique required that the student be aware of his progress and chart that progress at each instructional section. This charting activity concretely demonstrates the student's response to reading material, Some research does support the fact that inefficient readers are not aware of their own progress and self-correct less frequently than able readers (Allington, 1977). These methods provide a vehicle for enabling the reader to monitor his/her success with his/her own reading strategies. At the same time, these intervention techniques allow the tutor and student to talk about strategies to use to increase reading proficiency. Specific areas of concern were identified for each case study and appropriate intervention techniques were employed.

To remediate comprehension difficulties, clinicians used fifteen different intervention strategies (See Table II). Of these strategies, the Specific Skill Series produced the most consistent reading gain scores across all the case studies. Other techniques that proved successful were the language experience approach, purposeful reading, timed readings, and reader's theatre. The fact that oral reading techniques improved silent reading comprehension needs to be further investigated in a more systematic fashion. These oral reading techniques, perhaps serve the purpose of bringing covert reading behaviors to the overt attention of both the reader and the clinician.

To remediate inefficient reading rate, twenty-three different intervention techniques were used in a variety of case studies (See Table III). The most successful techniques for inefficient rate were timed

readings and charting progress. These two intervention strategies have been used throughout remedial instruction with success.

To remediate the inappropriate decoding strategies, sixteen different intervention techniques were employed (See Table IV). However, the most successful of these techniques were the cloze technique and the repeated readings. Again these techniques involved contextual application of phonic principles rather than isolated drill of specific phonic rules.

To develop rapid recognition of words at sight twenty nine different intervention strategies were used (See Table V). Of these the most successful intervention techniques for the most case studies were repeated readings, the language experience approach and flash cards. These techniques all involve at least three repititions of new sight words. The language experience and the repeated readings were in context while the flash cards represented isolated drill. However, both the repeated readings and the flash cards used graphing of daily progress to illustrate the student's improvement.

Involving only six case studies, utilizing appropriate intonation, stress, pitch and phrasing to convey meaning, oral reading fluency was remediated by a variety of techniques (See Table VI). Modeling oral reading behavior was the most successful intervention strategy for this concern, while timed readings proved the least successful.

For those students who were inefficient at using syntax to predict meaning, the intervention techniques of cloze procedure, creative writing and sentence combining proved successful (See Table VII). Four of the case studies indicated that the students displayed visual track-

ing difficulties (See Table VIII). A variety of techniques were used to remediate this concern; however, no intervention program resulted in an increase in reading performance.

In summary, a variety of techniques have been used in the reading clinic at Eastern Montana College. Some of these techniqes have proved more successful than others; however, none of the case studies were conducted under rigorous experimental design. It is necessary for clincians to begin collating the data from individual case studies in order to evaluat ethe effectiveness of the intervention programs. Our intervention program based on the directed reading-thinking activity differentiated according to learner strengths and weaknesses, is working, however the effectiveness of the time spend in direct instruction could be increased if the precise intervention techniques for each areas of concern were delineated.

TABLE II

CONCERN: COMPREHENSION
NUMBER OF CASE STUDIES: 11

INTERVENTION	PERCENT OF CASE STUDIES EMPLOYING TECHNIQUE	AVERAGE GAIN SCORES
Barnell Loft	55	1.08
Cloze	27	1.0
Creative writing	9	1.5
Flashcards	18	1.0
Herringbone	9	1.0
Language experience	36	1.12
NIM	27	1.0
Playreading	27	1.17
Progress chart	36	1.0
Purposeful reading	18	1.25
Sentence combining	18	1.0
Semantic mapping	9	1.0
SRA	9	1.0
Timed readings	18	1.25
Word bank	18	1.0

TABLE III

CONCERN: RATE GAIN SCORES FOR CASE STUDIES

NUMBER OF CASE STUDIES: 26

INTERVENTION	PERCENT OF CASE STUDIES EMPLOYING TECHNIQUE	AVERAGE GAIN SCORES
Alternate reading	8	1.0
Barnell Loft	4	1.0
Cloze	27	.92
Creative writing	8	1.5
Flashcards	38	.55
Glass analysis	4	0.0
Herringbone	4	1.5
Language experience	46	.87
NIM	42	.64
Repated readings	31	.94
Play reading	35	.55
Progress chart	35	1.5
Request	4	.5
Rhebus	4	0.0
Semantic mapping	12	.66
SQ3R	4	1.5
Sentence combining	19	1.2
Story cards	4	0.0
Timed reading	35	1.5
Word bank	19	.80
Word games	16	.50
Work book	4	1.5
Work sheet	4	1.0

TABLE IV

CONCERN: DECODING GAIN SCORES FOR CASE STUDIES

NUMBER OF CASE STUDIES: 12

INTERVENTION	PERCENT OF CASE STUDIES EMPLOYING TECHNIQUE	AVERAGE GAIN SCORES
Cloze	16	1.34
Creative writing	5	1.5
Flashcards	26	.5
Glass analysis	5	0.0
Language experience	58	.71
Modeling	5	1.5
NIM	26	1.0
Play reading	16	.83
Progress chart	16	1.17
Repeated readings	21	1.25
Sentence combining	16	.83
Story cards	5	0.0
Timed readings	16	1.34
Word games	26	.50
Workbook	16	.50
Worksheet	16	.67

TABLE V

CONCERN: WORD RECOGNITION GAIN SCORES FOR CASE STUDIES

NUMBER OF CASE STUDIES: 19

INTERVENTION	PERCENT OF CASE STUDIES EMPLOYING TECHNIQUE	AVERAGE GAIN SCORES
Alternate readings	5	.5
Barnell Loft	5	.5
Board work	5	0.0
Cloze	5	1.5
Creative writing	5	1.5
Fernald	5	0.0
Flashcards	53	.45
Language experience	37	.58
NIM	37	.43
Repeated readings	26	.90
Play readings	26	.50
Progress charts	16	1.0
Sentence combining	16	.34
Semantic feature analysis	11	.25
Semantic mapping	5	1.0
Timed reading	5	1.5
Wordbank	21	.62
Word games	32	.42
Workbook	11	.75
Worksheet	21	.37

TABLE VI

CONCERN: FLUENCY

NUMBER OF CASE STUDIES: 6

INTERVENTION	PERCENT OF CASE STUDIES EMPLOYING TECHNIQUE	AVERAGE GAIN SCORES
Alternate readings	33	1.0
Barnell Loft	17	.5
Cloze	17	0.00
Flashcards	50	.5
Language experience	17	.5
NIM	83	.7
Modeling	17	1.5
Play reading	50	.67
Progress chart	17	.5
Repeated readings	33	1.0
Timed readings	17	.0
Word games	33	1.0
Word bank	33	1.0

TABLE VII

CONCERN: SYNTAX USE

NUMBER OF CASE STUDIES: 4

INTERVENTION	PERCENT OF CASE STUDIES EMPLOYING TECHNIQUE	AVERAGE GAIN SCORE
Cloze	50	1.5
Creative writing	25	1.5
Flashcards	25	1.5
Language experience	75	1.0
NIM	25	1.0
Play reading	25	.5
Progress chart	50	1.25
Repeated readings	50	1.0
Sentence combining	25	1.5
Timed reading	50	1.0

TABLE VIII

CONCERN: VISUAL TRACKING
NUMBER OF CASE STUDIES: 4

INTERVENTION	PERCENT OF CASE STUDIES EMPLOYING TECHNIQUES	AVERAGE GAIN SCORE
Boardwork	25	0.0
Cloze	25	0.0
Fernald	25	0.0
Flashcards	75	0.0
Glass anaylsis	25	0.0
Language experience	50	0.0
NIM	50	0.0
Play reading	25	0.0
Progress charts	25	0.0
Rhebus	25	0.0
Story cards	25	0.0
Timed reading	25	0.0
Workbook	25	0.0
Worksheet	25	0.0

SELECTED REFERENCES

Allington, Richard, If They Don't Read Much, How They Ever Gonna Get Good? Journal of Reading, 21, 1977, 57-61.

McDonald, F.I. Beginning Teacher Evaluation Study, Phase II Summary. Princeton, New Jersey: Educational Testing Service, 1976.

Rupley, W. H. and Blair, T. R. Characteristics of Effective Reading Instruction. Educational leadership, Dec., 1978, 171-173.

Schneider, E. J. Researchers Discover Formula for Success in Student Learning. Educational Research and Development Report. 2, 1979, 1-6.

Wilson, R. M. Diagnostic and Remedial Reading for Classroom and Clinic. Columbus, Ohio: Charles E. Merrill Publishing Company, 1981.

Fifth Annual Montana Symposium

Early Education and the Exceptional Child

April 11-13, 1984

Featured topics:

Parent Involvement
Early Childhood Research
Instructional Strategies for Specific Disorders
0-3
Home versus Centered Based Programs
Transitions between Programs
Interagency Coordinator
Research, Data Collection and Precision Teaching
Instructional Design and Implementation
Modifying Commercial Programs
Skill Sequencing
Social and Affective Development
Computer Application
Mainstreaming procedures, results and practicalties

Participants from last year's conference have requested an emphasis on instructional techniques and hints for teachers. There has also been a request for more information on working with parents and strategies for regular classroom teachers.

An addition to this year's symposium will be the poster sessions designed to present information on special projects, model classrooms, agencies, and research. An award will be presented for the best poster sessions. For the poster sessions the presenter should prepare posters which can be read from a distance of 4 feet. Pictures, brochures, slide shows, and equipment may be displayed or demonstrated. Presenters will be available to answer questions and discuss their projects with participants; such a format often provides valuable information for those interested in specific aspects of a presentation through allowing for dialogue on an informal basis.

Details concerning keynote speakers will be disseminated with a general call for papers later this month.

RETURN TO: Dr. Christine Mason, Conference Coordinator
Institute for Habilitative Services
Eastern Montana College
1500 North 30th Street
Billings, Montana 59101-0298

By: JANUARY 15, 1984

FIFTH ANNUAL MONTANA SYMPOSIUM

EARLY EDUCATION AND THE EXCEPTIONAL CHILD

April 11-13, 1984

TOPIC: _____

TITLE OF PRESENTATION: _____

_____

Contact Person: _____

Address: _____

_____

Phone: ( ) _____

Type of Presentation:

Level _____ Awareness Advanced Seminar _____

_____ Skill Development & Application Poster Session _____

Interested in submitting paper for Proceedings Publication? ___YES ___NO

Length of Presentation: _____ 50 Minutes

_____ 1½ Hour Workshop (skill application)

_____ 2 Hour Workshop (skill application)

_____ 3½ Hour Special Workshop

_____ Poster Session

Workshops(skill application only): Enrollment needs to be limited to: _____25 _____40 _____Other

If more than one presenter, names and affiliation of other presenters:

_____ _____

_____ _____

_____ _____

(use additional paper if needed)

Presentation abstract: _____

_____

_____

_____

_____

A.V. Equipment Required: - Please check:

Overhead Projector ____ Videotape Equip. _____ (AV-CV-Cassette

Slide Projector _____ (please specify)

Other: _____

BE SURE TO RETURN BY JANUARY 15, 1984